Patristic and Ecclesiastical Texts and Translations

About the Holy Pascha

Matthew Vlastares

Edited, Translated and Annotated
by Anastasios M. Ioannides

About the Holy Pascha

Patristic and Ecclesiastical Texts and Translations

Protopresbyter George Dion. Dragas
General Editor

Daryle R. Lamoureux
Technical Editor

1. Saint Cyril of Alexandria. *Against Those Who Are Unwilling to Confess that the Holy Virgin Is Theotokos*. Edited, Translated and with an Introduction by Protopresbyter George Dion. Dragas.

2. Saint Cyril of Alexandria. *Commentary on the Book of Exodus: First Discourse*. Edited, Translated and Vocabulary by Evie Zachariades-Holmberg

Patristic and Ecclesiastical Texts and Translations 3

About the Holy Pascha

Matthew Vlastares

Edited, Translated and Annotated with an Introduction
by Anastasios M. Ioannides

Rollinsford, New Hampshire

Published by Orthodox Research Institute
20 Silver Lane
Rollinsford, NH 03869
www.orthodoxresearchinstitute.org

© 2011 Anastasios Ioannides

On the front cover, Matthew Vlastares offering the Syntagma to Christ. Miniature from a manuscript of the 15th century. Holy Mountain of Athos, Vatopedi Monastery, Codex 483, folio 2r. © Sacred Brotherhood of the Holy Mountain, Athos.

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the author or publisher.

ISBN 978-1-933275-53-6

Acknowledgments

This book was first submitted as the author's thesis in partial fulfillment of the requirements for the degree of Master of Arts offered in cooperation with the St. John of Damascus School of Theology of the University of Balamand, Lebanon. The academic program is administered by the St. Stephen's Course of Study in Orthodox Theology of the *Antiochian House of Studies*, Antiochian Village, Ligonier, Pennsylvania, under the auspices of His Eminence Metropolitan PHILIP of the Antiochian Orthodox Archdiocese of the United States.

Ever since I expressed an interest in pursuing the St. Stephen's Course of Study, I have been asked repeatedly why I would find such an undertaking appealing. Clearly, my 'secular' vocation as an engineer is hardly a common departure point for the pursuit of theological studies; moreover, the 'earthly' benefits of engineering far exceed those to be expected by a student of theology, even though the fringe benefits of the latter may be 'out of this world!' Those who knew me a little better perceived a connection to my experiences, positive and negative, as a cradle Orthodox growing up in one of the most ancient and venerable churches, the Church of Cyprus. I can only hope that my theological studies provide a healthy outlet for dealing with my adolescent baggage and I beg for the readers' compassion in this regard.

As time went by, however, I came to realize that pursuing this course in applied theology was a labor of love: love for myself, for

my fellow sojourner, for my Father God and for my Mother Earth. I sincerely hope that this loving strain will be much more obvious to the reader than any other. Through my research, I remembered and re-learnt how to love, and I re-discovered that all theology, theoretical or applied, is nothing if it is not a labor of unconditional love. This realization gradually congealed my newly adopted theological attitude, which I truly believe lies in the heart of all Eastern Orthodox theological thought. If theology is love, the quintessence of love is expressed in relationships! This simple thought is the only antidote to the poisonous strains of theology that emanate from juridicalism, rationalism and scholasticism, and which plague Orthodox theology and practice no less than they torture our sister Protestant and Roman Catholic denominations. The Orthodox can no longer afford either to bum the lamp under the bushel or to hide behind endless self-righteous repetitions regarding 'negative Western influences.' If we have something to offer the world — and I believe we do! — let us clearly identify it, distill it, purify it and practice it with unwavering commitment. Doing so will allow us to be more receptive to what other traditions of faith also have to offer to us and to the world. We can no longer indulge in pointing out our peripheral disagreements: it is time to focus on our common core, polish it, nurture it, love it, appropriate it, and pivot our lives around it.

My deepest appreciation and heartfelt gratitude are extended, first and foremost, to my academic advisor and mentor, the V. Rev. Fr. Michel Najim, *D.Th.*, for his love, friendship, scholarship and hard work, all of which have been instrumental in seeing this study to its completion. In all my interactions with him, Fr. Michel embodied the best of what the *Antiochian House of Studies* stands for: as a father, he nurtured me; as a scholar, he inspired me; as a fellow sojourner, he uplifted me; as a pastor, he guided me; as a human being, he served as a role model for me. For all this, and for more, I can only pray that his reward be a hundredfold.

I was introduced to the work of Matthew Vlastares in the Summer of 2001 by the Rev. Fr. Patrick Viscuso, *Ph.D.*, who had com-

pleted his own thesis a few years earlier, dealing with the theology of marriage articulated in the *Syntagma Kata Stoicheion*. I am indebted to Fr. Pat for quickly recognizing the opportunity presented by my interest in the reckoning of Paschal dates, my familiarity with Byzantine Greek, and the prominent position occupied by Vlastares' *Chapter 7 About the Holy Pascha* in the history of the Eastern Orthodox controversy over calendrical reform. I was slow to convince, however, having little patience at first with symbolism, which appeared too farfetched and akin to theological mythology. Little by little, I came to acquire a deeper appreciation for the erudite Thessalonikan monk, the Byzantine world he inhabited, and the fascinating history of the *computus*. Without Fr. Pat's accommodating encouragement, this effort might never have been embarked on, let alone completed.

Over the years, I have become indebted to numerous individuals and institutions, whose help I sought as I endeavored to complete this book. All of them, I wish to thank here, even as I declare their innocence regarding any errors or omissions included in my work, for which I am solely responsible. The Rev. Protopresbyter William R. Cassis and the Rev. Fr. Irenaeus Cox of Holy Trinity-St. Nicholas Greek Orthodox Church in Cincinnati, OH — my home parish — provided me with a number of useful books, engaged me in enlightening discussions, and offered me the opportunity to present six lectures to the parish during Lent 2003 on *The Story of the Lord's Pascha.* Preparing these lectures gave me an added incentive to put together in a more coherent manner the information I had gathered and the ideas I had developed. Similarly, the Rev. Fr. George Pyle of Three Hierarchs Greek Orthodox Church in Champaign, IL — a parish I still call home almost every other week — supported, encouraged, and stimulated my effort.

The librarians at the Blegen and Langsam Libraries of the University of Cincinnati, at the Classics Library and the Main Stacks of the University of Illinois at Urbana-Champaign, and at the Public Library of the City of Cincinnati have been extremely helpful and courteous to me, sometimes allowing me to remove restricted items

for study and for photocopying. The personnel at Dumbarton Oaks Research Library welcomed me at short notice as a temporary reader during my brief visit to Washington, DC, in January 2003.

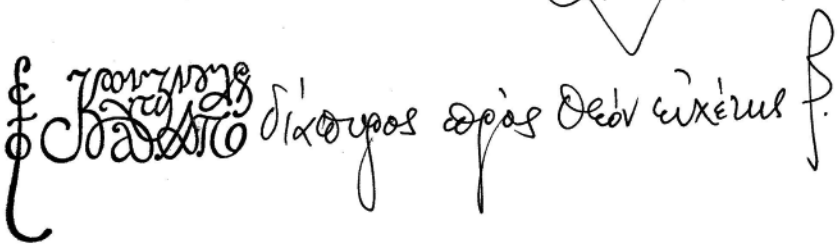
In the course of preparing this book, I went through more than two dozen drafts, reflecting various stages of completion. One person, other than me, read through each one of them: my good friend Wallace Wilson. His keen editorial skills were soon matched by his growing expertise in computistical history, and he used both most effectively, detecting numerous slips and typing errors, and performing a number of useful services on my behalf in preparing the manuscript in its final form. Many of my ideas have been significantly influenced by our long discussions, to the point that it is practically impossible to disentangle his contribution in each instance. As an inadequate token of my appreciation, I dedicate this book to him.

Τῷ Ἐλλογιμωτάτῳ κυρίῳ Ἀναστασίῳ Μ. Ἰωαννίδῃ, Ἀναπληρωτῇ Καθηγητῇ Πανεπιστημίου, τέκνῳ τῆς ἡμῶν Μετριότητος ἐν Κυρίῳ ἀγαπητῷ, χάριν καί εἰρήνην παρά Θεοῦ.

Καίτοι δέν ἔχομεν τόν χρόνον νά μελετήσωμεν τήν περί τοῦ ὑπολογισμοῦ τῆς ἡμερομηνίας τοῦ Ἁγίου Πάσχα ἐπιστημονικήν ἐργασίαν σας, συγχαίρομεν ὑμῖν διά τήν προσπάθειαν καί τόν κόπον καί εὐχόμεθα νά συμβάλῃ ἡ μελέτη σας εἰς τήν περαιτέρω κατανόησιν τῆς χρησιμότητος τοῦ ἀπό κοινοῦ ἑορτασμοῦ τῆς Μεγάλης Ἑορτῆς ταύτης πρός ἐντονωτέραν μαρτυρίαν τῆς ἑνότητος τῶν Χριστιανῶν εἰς τόν σύγχρονον κόσμον.

Ἐπί δέ τούτοις, ἀπονέμοντες ὑμῖν ὁλόθυμον τήν πατρικήν καί Πατριαρχικήν ἡμῶν εὐλογίαν, ἐπικαλούμεθα ἐφ᾽ ὑμᾶς τήν χάριν καί τό ἄπειρον ἔλεος τοῦ Θεοῦ.

,βι᾽ Αὐγούστου β᾽



Foreword

This volume *Matthew Vlastares: About the Holy Pascha (Greek text and Translation)* represents a great achievement, which is difficult to match. The reason for this is twofold: first it translates a text which is supremely technical and, hence, extremely difficult, and second, it provides a meticulous and accurate explanation of every technical term and phraseology.

The subject matter of this book is the date of the Christian Pascha, how it is calculated and why. As such it will be extremely useful to church canonists but also to theologians who wish to learn the church's reasoning concerning the computation of the date of the Christian Pascha in comparison to the Jewish one.

There is also a great deal of science in this text, because it deals with the ancient traditions (Jewish, Greek and Latin) of calculating time and working out the intricacies of the calendar. Dr. Anastasios Ioannides, Associate Professor of Civil Engineering at The University of Cincinnati, has succeeded, through the publication of this fascinating book, putting in his debt theologians, canonists, historians and scientists.

The Orthodox Research Institute is honored to have it included in the new Series: *Patristic and Ecclesiastical Texts and Translations* (PETT No 3).

Protopresbyter George Dion. Dragas Ph.D., D.D.
Professor of Patrology, Holy Cross Greek Orthodox School of Theology in Brookline, Massachusetts and General Editor of the PETT Series

Preface

Few texts are extant commenting on the Paschal calculations of the Byzantine tradition, especially in comparison with the large number of such commentaries on the Alexandrian and Latin traditions. The single most important of the Byzantine commentaries is that of Matthew Vlastares, the 14th-century author of an encyclopedic compendium of Byzantine law, which includes a lengthy discussion of the regulations for determining the date of Holy Pascha.

Anastasios Ioannides has brought back into print the only modern critical edition of the Greek text of this tract, with the first translation of this important text into a modern language. The English translation is excellent, both literally faithful to the Greek and idiomatically modern. The extensive explanatory notes will be useful to scholars, as well as to readers unfamilar with the subject matter. Dr. Ioannides introduces readers to the mathematical intricacies of Paschal calculations based on the phases of the moon and to the construction of the Byzantine calendar with a base-date of 1 September in the year corresponding to 5509 BC and to the first year of the 532-year Paschal cycle.

The Byzantine tradition derives from calendrical conventions established in the third century AD and incorporates a 19-year cycle of dates for the Paschal full moon that was approximately correct in the Julian calendar of that period. Especially useful are the notes explaining how scholars like Matthew Vlastares sought to make corrections for the observable date of the vernal equinox in the 14th century and the first astronomical full moon thereafter, without abandoning the traditional system.

Alden Mosshammer
Professor of History (Emeritus)
University of California, San Diego
Author, *The Easter Computus and the Origins of the Christian Era* (Oxford 2008)

Table of Contents

Acknowledgments ..... **i**

Patriarchal Blessing ..... **v**

Foreword ..... **vi**

Preface ..... **vii**

Introduction ..... **xiii**

1. Sources xiii
2. Manuscripts and Codices xiv
3. The Translation xv
4. The Author xvii
5. Vlastares' Works xx
6. Language xxii
7. The *Syntagama kata Stoicheion* xxiv
8. The *Chapter 7 About the Holy Pascha* xxvii
9. Historical Significance xxx
10. The *Computus* xxxiv

Syntagma kata Stoicheion*: *About the Holy Pascha

Chapter 7 of the Alphabetical Element Π **1**

1. Preamble 3
2. About the Equinox 13

3. On Acount of What Is Pascha Celebrated after the Equinox 39
4. Why the *Kyrion* Pascha Does not Happen Every Year 45
5. Why Are the Cycles of the Moon Nineteen? 55
6. Why Are Twenty-Eight the Cycles of the Sun?....63
7. Why Do the Cycles and the *Themelioi* of the Moon Commence as of January? 67
8. Why Do the Cycles of the Sun Commence as of October?....73
9. How Is the Cycle of the Moon Determined? 77
10. How Is the *Themelios* of the Moon Determined?....79
11. How Are the Cycles of the Sun Determined? 85
A. In Another Manner 85
B. Alternatively....85
12. How Is the Indiction Determined? 89
13. How Is the *Nomikon* Pascha Determined?....93
A. In Another Manner 93
B. In Another Manner....93
14. The Manner in Which the Christian Pascha Is Found....101
15. The Manner in Which the *Apokreos* Is Found....105
A. Or Also in This Manner....105
16. About the *Nomikon* Pascha and the Disagreement about the Full Moon....111
17. That Four Are the Stipulations of Pascha 117
18. About the Spring Equinox....129
19. [Canon] 1 of the Synod of Antioch....143
20. [Canon] 66 of the Sixth Synod 149
21. [Canon] 89 of the Sixth Synod 151
22. [Canon] of Dionysius of Alexandria....153
23. About the Third-Day Resurrection....159
24. Of [St. John] Chrysostom....161
25. [Canons] 34, 73 of Carthage 163
26. [Canon] 14 of Laodicea 165
27. Law 167

Canonion A 169
Canonion B 175

Greek Vocabulary 181

Bibliography 187

Index to Subjects and Names 199

About the Editor and Translator .....

Introduction

1 Sources. In the preparation of this translation, two sources of the original Greek text have been employed, referred to herein as "Rhalles and Potles" and "Migne," respectively. The first was published in Athens, Greece, as the last in a six-volume set with the title "Compilation of the divine and sacred canons of the holy and most-laudable apostles as well as of the sacred ecumenical and regional synods and of the holy fathers in various locations."[1] Volume 1 was published in 1852, bearing the following explanation on the title page: "Published together with most other ordinances that regulate the ecclesiastical constitution, along with the ancient interpreters, and a variety of readings, by G[eorge]. A. Rhalles and M[ichael]. Potles, with the approval of the Holy and Great Church of Christ[2] and of the Sacred Synod of the Church of Greece." Published in 1859, the sixth volume "contains the alphabetical Compilation of Vlastares and a general analytical table [of contents]." A separate title page to

[1] Rhalles, G. A. and Potles. M. [Γ.Α.Ῥάλλη καὶ Μ. Ποτλῆ] (1852–1859), *Σύνταγμα τῶν θείων καὶ ἱερῶν κανόνων τῶν τε ἁγίων καὶ πανευφήμων ἀποστόλων, καὶ τῶν ἱερῶν οἰκουμενικῶν καὶ τοπικῶν συνόδων καὶ τῶν κατὰ μέρος ἁγίων πατέρων* (= Compilation of the divine and sacred canons of the holy and most-laudable apostles as well as of the sacred ecumenical and regional synods and of the holy Fathers in various locations), in Greek, 6 vols., G. Chartophylax and Avge Publishers, Athens, Greece.

[2] = Patriarchate of Constantinople.

Vlastares' work, referred to herein as the *Syntagma Kata Stoicheion*,[3] notes the following: "Matthew the Vlastares' Compilation By [Alphabetical] Element of all the subjects that have been included in the Divine and Sacred Canons, along with various readings, and an Analytical Table [of Contents], which [are found] in the divine and sacred Canons contained in the six-volume Compilation by G. A. Rhalles and M. Potles." Rhalles and Potles present only the original Greek text, along with an occasional footnote indicating variants in the manuscripts and codices examined. *Chapter 7 About the Holy Pascha*, is found between pages 404 and 428 of Vol. 6.

The second source employed for this translation was published in 1865 and comes from Vol. CXLV [145] of the monumental work by Jacques-Paul Migne (1800–1875) "*Patrologiæ Cursus Completus... Series Græca Posterior*," published in Paris, France. Volumes 144 and 145 of the *Patrologiæ Græcæ* contain the works of "Georgius Pachymeres *Opera Omnia* and Matthæus Blastares *Syntagma Canonum*." The latter is claimed to be an edited version of that found in Rhalles and Potles: "*ad novissimam editionem vivorum cll. Rhalli et Pottli recensitum. Accurante et devuo recognoscente J.-P. Migne*." Along with the original Greek text, Migne offers a Latin translation prepared by Guil. Beveregius, in parallel columns. Vlastares' *Chapter 7 About the Holy Pascha*, spans Columns 65 through 108 of Vol. 145.

2 Manuscripts and Codices. Rhalles and Potles (Vol. 6, p. δ) list the manuscripts (MS) and codices (Cx) used in their reproduction of Vlastares' *Syntagma*, as follows:

#1340 MS by Ioannis Cotelerios (Joannis Baptistæ Cotelerii, 1680: Paris) — Abbreviated as: 1340*

406 MS by Iakovos Goarios (Jacobus Goar, 1683: Paris) — Abbreviated as: Γ

#1375 MS by Bishop Cyril of Nafpaktos (1541: Byzantium) — Abbreviated as: 1375*

[3] = Compilation by [Alphabetical] Element.

51 Cx of the Imperial Library of Vienna — Abbreviated as: α
52 Cx of the Imperial Library of Vienna — Abbreviated as: β
53 Cx of the Imperial Library of Vienna — Abbreviated as: γ
54 Cx of the Imperial Library of Vienna — Abbreviated as: δ
Cx by John of Byzantium, priest and Grand *Sakellarius* of the Great Church, owned by Archbishop Kallinikos of Phthiotidos (1794: Byzantium) — Abbreviated as: K
Cx owned by Mr. Iakovos Vidalis (16th? c.: Location unspecified) — Abbreviated as: ε
Cx *Synodikon* by Guilielmus Beveregius (1672: Oxford) — Abbreviated as: B

The two manuscripts identified by a star (*) were used by Rhalles and Potles as the "bases," i.e., as the primary sources.

For his part, Migne (*PG*, Vol. 144, Col. 953) recognizes two primary manuscript sources, namely, "*Bodleiano*[4] *et Isaaci Vossii Græce editit Guil. Beveregius*." Migne's Greek text differs occasionally from that of Rhalles and Potles, and such differences are highlighted in the footnotes accompanying this English translation. These commonly occur in the section headers, several of which are either missing in Migne or exhibit different punctuation.

3 The Translation. In preparing this translation, I was faced with the dilemma experienced by anyone attempting to render into a modern language a text that had been composed centuries ago in a different culture, setting and tongue. While I desired to keep my rendering as fluent and comprehensible as possible, so that a reader would not need to resort to the original, nor would one need to know Byzantine Greek in order to follow my translation, I was equally drawn to the music and poetry of the original, and wished to convey some of that flavor as well, awkward as Vlastares' long sentences and convoluted syntax sometimes made my task. I am keenly aware that this was essentially a

[4] #158, 15th c., or possibly the Saivantianos, 16th c., both as cited by Rhalles and Potles, v. 6, p. γ.

balancing act, one that required reasoned choices and legitimate compromises. In most instances, I tried to retain the foreign texture of the Greek, even at the expense of losing some of the smoothness of familiar English. Sometimes, I inserted additional punctuation in the form of commas, semi-colons or even periods, in order to elucidate extremely long sentences, reminiscent of those in letters my father used to send me while I was an undergraduate student four decades ago. I have also added what I felt were necessary words or phrases so that Vlastares' laconic and frugal text would become less ambiguous and more comprehensible: in many instances, such emendations are enclosed in square brackets, [ ], in the text itself, while in others, they appear as explanatory footnotes. On the rare occasion when I opted for the intelligible rather than the poetic, I provide the literal meaning in a footnote. I have also used curved brackets, { }, to denote variants of the text encountered in one or more alternative manuscript or codex sources.

I have endeavored to cross-check the text using astronomical data that have become surprisingly easy to obtain in recent years. I often felt that the absence of such data in previous works on the topic had been a serious shortcoming, and one that I sought to address to the best of my limited abilities, by incorporating into my translation, as much as possible, my engineering education. A fringe benefit of this approach has been that it led me to a number of significant conclusions, regarding, for example, Vlastares' own views on the sources of the "four stipulations," or his misguided critique of Jewish practices. The latter is particularly pertinent to the current inter-Orthodox debate on calendar reform, since the so-called Zonaras' *proviso* continues to be a much abused stumbling block to efforts for a universal resolution.

In the process of subdividing the text into verses, I have adhered to the principle that a new verse should begin when one or more of the following conditions are fulfilled:

(a) A period or a colon appears in the original;

(b) A period has been added in the translation, recognizing a natural break in the original;

(c) A long sentence in the original has been split into complete clauses, separating multiple verb phrases;

(d) A long sentence in the original has been split into complete concepts, separating multiple subject phrases; and,

(e) No verse should exceed 3 lines in the translation or 2½ lines in the original by Rhalles and Potles.

4 The Author. Very little is known about the author of *Chapter 7 About the Holy Pascha* translated herein, most of it pieced together from short autobiographical references found in a variety of texts ascribed to him, notably in the form of *epigrams*, i.e., short, poetic preambles appended to the beginning of each work,[5] and from correspondence by or to him, as well as annotations or marginalia encountered in manuscripts of the documents in the Greek original or in one of several translations into Slavic languages. Scholars,[6] however, would agree that Matthew, "nicknamed Vlastares," was a monastic theologian and one of the last ecclesiastical writers of Byzantium, who flourished in the 14th century, and whose primary claim to fame is his monumental canonical compendium or *Syntagma*, noted above.

[5] For example, the *Syntagma* bears the epigram: "Matthew, pitiable among monks and sacrificial offerer, this table organized of Canons."

[6] I have relied primarily on the information provided by Paschos, P. B. (1978), *Ὁ Ματθαῖος Βλάσταρης καὶ τὸ Ὑμνογραφικὸν Ἔργον του*, (= Matthew Vlastares and his Hymnographic Work), in Greek, Idryma Meleton Chersonesou tou Aimou No. 183, Thessalonike, Greece, especially pp. 61–76. Additional information came from Troianos, S. N. (1998), *Ἀνατολὴ καὶ Δύση στὸ Κανονικὸ Ἔργο τοῦ Ματθαίου Βλάσταρη*, (= East and West in the Canonical Work of Matthew Vlastares), in Greek, *Βυζαντινά*, Vol. 19, Kentron Vyzantinon Erevnon Aristoteleiou Panepistemiou, Thessalonike, Greece; Metropolitan Panteleimon Rhodopoulos (1993), *Τὸ Σύνταγμα τοῦ Ματθαίου Βλάσταρη καὶ ἡ Ἐπίδραση του στὸν Σλαβικὸ Κόσμο*, (=The *Syntagma* of Matthew Vlastares and Its Influence on the Slavic World), in Greek, *Analekta Vlatadon* 56, Patriarchikon Idryma Paterikon Meleton, Thessalonike, Greece; and, Viscuso, P. D. (1988), *A Byzantine Theology of Marriage: The* Syntagma kata stoicheion *of Matthew Blastares*, Ph.D. Dissertation, Catholic University of America, Washington, DC. Among them, these sources include a reasonably complete bibliography on Vlastares, his life and his works.

The place of his birth is unknown, while the date of his birth was probably in the early 1280s. He lived much of his life as a monk and a presbyter in the monastery of *Kyr-Isaac* in Thessalonike, Greece, where he eventually died, some time between 1350 and 1355. It has been argued that the monastery of *Kyr-Isaac* is in fact the monastery of the *Theotokos* of *Perivleptos*[7] established in the 14th century, part of which survives to this day in the parish church of St Panteleimon, in downtown Thessalonike, Greece, just off Egnatia Avenue.[8]

His works suggest that Matthew Vlastares devoted his life to the Church and to his studies, endeavoring to apply the latter to the defense and reinforcement of the former. There have been suggestions that he spent a period of time on Mount Athos itself at the Karakallou monastery, that he served as *Megas Protosyncellos*[9] of the Metropolitanate of Thessalonike and as Abbot of the monastery of *Kyr-Isaac*, that he was honored by the Emperor of Constantinople, and that he also studied and practiced medicine.[10] An icon in a 16th c. manuscript, depicts Matthew with the halo of a saint, offering to Christ a book, presumably his *Syntagma*.[11] He was evidently a man who was eager to learn, being particularly drawn to both the applied and the theoretical sciences, and who was prone to extracting theological and philosophical conclusions even from rather unexpected sources. Yet, his scholarship displays little that is of an original nature: much of Vlastares' effort is encyclopaedic, resulting in compilations

[7] = observed from all around, referring to the prominence of Thessalonike; or perhaps, =observing all around, referring to the protection ascribed to the *Theotokos* by the pious citizens of that city. See also Viscuso, p. 36.

[8] Paschos, 1978, pp. 51–60. See also, Theocharides, G.I. (1970), *Ὁ Ματθαῖος Βλάσταρις καὶ ἡ Μονὴ τοῦ κὺρ-Ἰσαὰκ ἐν Θεσσαλονίκῃ*, (= Matthew Vlastares and the Monastery of Kyr-Isaac in Thessalonike), in Greek, *Byzantion*, XL (40), Brussels, Belgium; and, Paschos, P.B. (1972), *Ἄγνωστα Ἔργα τοῦ Βλάσταρι*, (= Unknown Works of Vlastares), in Greek, *Theologia*, 43, Athens, Greece, pp. 810–812.

[9] = Great First Secretary.

[10] Paschos, 1978, pp. 69–74.

[11] Paschos, 1978, pp. 75–76, 301.

of previously composed works to which he added his own style of interpretation and synthesis. This, however, must be understood in the context of Byzantine scholarship, for which excellence was measured more by the adherence to ancient sources and ideas, rather than by the promulgation of innovative attitudes and concepts.

A lot more is known about the city of Thessalonike in which Matthew Vlastares lived, and about the period in which he was active as a writer of canonical, hymnographic and antirrhetic works.[12] Fourteenth century Thessalonike witnessed a series of tumultuous events, including foreign incursions, *coup d'etats*, civil wars, and earthquakes, as well as the much discussed hesychast controversy. It was a period of spiritual and literary renewal, during which a series of well-known figures put their stamp on Byzantine history and marked in their own distinct ways the historical road of Eastern Orthodoxy. Most notable among these were St. Gregory Palamas, champion of the hesychasts, and his adversaries Varlaam of Calabria and Gregory Akindynos; Nicephorus Gregoras, author of a proposal for calendrical reform whose principles were implemented some 250 years later in the Gregorian reform of AD 1582, even though Gregoras himself languished in obscurity branded as an anti-Palamite; Constantine Armenopoulos, author of the *Hexabiblos*, a legal compendium analogous to the *Syntagma*, but containing only civil legislation; Nicephorus Choumnos; Nicephorus Kallistos Xanthopoulos; Thomas Magistros; Neilos and Nicholas Kabasilas; and several others.

5 Vlastares' Works. If all the works ascribed to him[13] came indeed from his quill, Matthew Vlastares was a prolific writer of both prose and hymnography, reflecting the cultural renaissance of 14th century Byzantium. His corpus reveals a person preoccupied with the practical problems of everyday life, particularly those mani-

[12] Paschos, 1978, pp. 37–50.

[13] Paschos, 1978, pp. 84–129, is very generous in attributing works to Matthew Vlastares. For his part, Viscuso, pp. 6–70, scrutinizes the meager evidence and appears rather skeptical concerning several of Paschos' attributions.

fest in his own times, which he addresses from a dogmatic, liturgical, theological, and ascetical perspective. Most of his works remain unpublished and are available only in manuscript form. The *Syntagma* is a notable exception: as mentioned earlier, it has appeared in print both in the Greek original, as well as in Latin and in Slavic language translations. None of Vlastares' writings have been translated into English, except for several excerpts from the *Syntagma* related to the theology and canon law of marriage.[14] The extant works of Matthew Vlastares are listed as follows:[15]

a. Prose

10 theological, antirrhetic homilies:

To Jews (five orations);
Against Latins;
About the Azymes;[16]
About the Mystical Supper;
Arithmetic Theorem of the Number 2000;[17]
Letter to Prince Sire Guy de Lusignan of Cyprus (*c.* 1342);[18]
About the Kollyva;[19]
About the Divine Grace or About the Divine Light;[20]
Debate with Varlaam;
Who are those that Preach the Illegitimate and Foreign Doctrines of the Church of Christ God.

7 canonical treatises:

[14] These have been translated by Viscuso.
[15] Paschos, 1978, pp. 283–286, 84–129. See also Viscuso, pp. 37–56.
[16] = unleavened bread.
[17] The complete title includes: "That the divine Fathers who contended at the 7 Synods are two-thousand in number."
[18] According to Viscuso, p. 27, "this writing reveals that the canonist was an anti-unionist who most probably held a position of respect in the eyes of the imperial family," since Sire Guy de Lusignan was an uncle of Emperor John V Paleologus. See also Paschos, 1978, p. 95.
[19] = boiled wheat.
[20] According to Viscuso, p. 22, this is sometimes cited as *Against the Barlaamites*, or *Against the disciples of Barlaam*, or *Against Barlaam*; at least one researcher assumed that the latter referred to the Debate with Varlaam.

The Syntagma Kata Stoicheion;

Synopsis[21] from the Canonical Work of St. John the Faster (†595);

Synopsis of Canonical Responses of Nicetas [Metropolitan] of Herakleia (1030–1100);

Synopsis of Canons of St. Nicephorus I, Patriarch of Constantinople the Confessor (806–815);

Synopsis of Canonical Responses of St. John, Bishop of Kitros (fl. 12th c.);

Synopsis of [67] Latin legal terms;

Synopsis of Rhetoric, which relies on Hermogenes (2nd c. AD).

1 translation:

The Ladder of Divine Ascent by St. John Climacus (into vernacular Greek).

b. Hymnographic[22]

13 *epigrams* (short poetic headers to his prose works);

17 *acrostichs* (verses composed of the initials of stanzas of his *troparia* and *stichera*);

199 *troparia*[23] of the *Makarismoi*[24] in the book of *Parakletike*.[25]

90 *stichera-prosomoia*[26] for the period of the *Pentekostarion*;[27]

267 *troparia* of the *Makarismoi* also for the period of the *Pentekostarion*;

---

[21] = Abbreviated Presentation.

[22] Like much of his prose, Vlastares' hymnographic output mostly follows pre-existing forms and rhythmic prototypes, an attitude that prevailed among Byzantine hymnographers since the turn of the first millennium.

[23] = short, stand-alone songs.

[24] = Beatitudes.

[25] = the book containing hymns in the eight tones of Byzantine music, arranged on an eight-week basis around the year.

[26] =songs preceded by verses from the Old Testament — songs chanted according to a pre-existing rhythmic and melodic pattern.

[27] Vlastares seemed particularly drawn to the period of the *Pentekostarion*, the eight weeks from the Sunday of Holy Pascha to the Sunday of All Saints (which follows the Sunday of Pentecost, i.e., of the fiftieth day [from Holy Pascha]), and evidently attempted to fill a void in the hymonographical corpus existing in his day for this exalted festal period.

2 [poetic] catalogues of ecclesiastical and imperial *offikia,*[28] [concluded with] 1 [poetic] Ethical Epilogue.

6 Language. Matthew wrote in a language significantly more archaic than the vernacular Greek of his day, a custom that survives even to this day among many writers of Orthodox religious or ecclesiastical works. His language, terminology, and expression betray influences from classical Greek authors, especially those using the Attic dialect.[29] His writings abound in examples of attic-style *synaeresis*, which eliminates repeated vowels; *ekthlipsis*, which eliminates single vowels; use of two-letter *englitic* words, which act as conjunctions; use of uncommon words or noun forms; etc. His syntax is often lyrical, laden with archaic undertones, yet communicating clearly the anxiety of his times. His works evince his tendency toward mystical or symbolic interpretation. He is particularly fascinated by numbers, to which he ascribes a symbolic and anagogic quality. For example, the seven days of creation find in Vlastares a one-to-one correspondence with the "seven ages of man," each of which is considered to last seven years.[30] Such an approach allows him to draw spiritual and ethical implications from uncommon sources. His works often display a distinct mystagogical and eschatological character: the purpose of his life and works is the defense of Orthodox doctrines, and the attainment of *theosis*, or union with the divine, through continual prayer, repentance and a hesychast attitude. He is primarily a neptic theologian and a hesychast, even though his devotion to the Palamite doctrines themselves may have characterized only the latter portion of his life.[31] The widespread acceptance of his works, particularly of

[28] = honorary titles.
[29] Paschos, 1978, pp. 181–187.
[30] Paschos, 1978, pp. 262–271.
[31] Most of the information on this issue comes primarily from two letters thought to be addressed to Vlastares, one from Gregory Akindynos and the second from Joseph Kalothetos. For an incisive discussion of all the evidence, see Viscuso, pp. 13–25.

the *Syntagma*, is not unrelated to his adherence to the hesychast ideals, which eventually prevailed among the Byzantine Orthodox. It has been suggested that some of Vlastares' hymns offer themselves as suitable candidates for inclusion in a revised edition of the current books of ecclesiastical services.

Vlastares is not particularly given to polemics, but he is unwaveringly committed to the Orthodox viewpoints, which he defends vigorously against perceived opponents, notably the Latins (Roman Catholics) and the Jews. His writings exhibit occasional examples of sarcasm and irony, sometimes expressed with considerable sharpness.

7 The *Syntagma Kata Stoicheion*. This monumental compilation, which is singularly responsible for Vlastares' widespread reputation, is a practical and systematic legal encyclopedia containing both ecclesiastical canons and civil legislation. Its compilation is related to the famous reform in 1329 of the judicial system under Emperor Andronicus III Paleologus (r. 1328–1341), which instituted mixed courts consisting of two lay and two clerical judges. It was imperative, therefore, that the clergy receive training in civil law, even as the lay lawyers needed to be made familiar with ecclesiastical legislation.

The subjects treated in the *Syntagma* are arranged alphabetically into 24 parts, one for each of the letters of the Greek alphabet. They include the holy canons pertaining to all subjects likely to occupy the courts of his day, to which Vlastares appends the most important civil laws. Each of the 24 parts is subdivided in turn into a number of chapters, dealing with one of the subjects of interest. For example, under the 16th part (letter Π), *Chapter 7* deals with issues *About the Holy Pascha.* The entire *Syntagma* comprises 303 chapters, 81 of which present both canons and civil laws, 80 provide only holy canons, while 31 cite only civil laws. The remaining 111 chapters are brief citations, referring the reader to a detailed discussion of the subject in another chapter.[32] The work is prefaced by a short essay, called

[32] Paschos, 1978, pp. 108–111.

Protheoria,[33] which presents significant information and critical elements concerning the sources used in preparing the compilation. With regard to his objectives and approach, Vlastares states: "To be sure, I have assembled the entirety of the [letter of the] divine canons, which are intended to affirm the salvific doctrine and to provide a teaching that is beneficial, as has been said, for all humanity, but also their own[34] spirit, together with [the spirit] of those [previous authors] who have interpreted them using devout disposition, even as I abridged these [interpretations], as is fitting, since they had been [presented] in a kind of *periphrasis*.[35] Nonetheless, I have taken care not to omit anything from their[36] mind, as was feasible to us, and moreover I have not [omitted] on account of ill-will whatsoever had been passed over by their[37] interpreters in whatever way, yet could be useful in the soul's struggle, and which we happened to encounter [from other sources], [and] we have created an easy-to-use[38] compilation, in accordance with our strength … In addition, I have resolved to conjoin with the relevant chapters of the canons, a selection of useful but short and abridged texts from the civil legislation, since these are allies to the sacred canons and speak in harmony with them, and add abundantly their[39] witness to their[40] validity."[41]

Vlastares may have been inspired to compose his *Syntagma* upon studying the extensive composition by St. John of Damascus bearing the title *Sacra Parallela* (or Εἰς τὰ Ἱερὰ Παράλληλα).[42] The latter bears an unmistakable similarity to Vlastares' work, inasmuch as it is a compendium of quotations from Scripture and the Holy Fathers on a long list

[33] = Foreword.
[34] = the canons'.
[35] = circumlocution; a roundabout expression, using many words for few.
[36] = the previous interpreters'.
[37] = the canons'.
[38] Alternatively, handy, of general use.
[39] = the civil laws'.
[40] = the sacred canons'.
[41] Rhalles and Potles, Vol. 6, p. 5.
[42] Migne, *PG* 95:1033-ff.

of issues, arranged alphabetically, or κατὰ στοιχεῖον. For instance, under the latter *Alpha*, one finds quotations about the immutable (ἀίδιος) divinity, or the inescapable (ἄφευκτον) God, or the incomprehensible (ἀκατάληπτον) God, etc. Most interestingly, however, St John notes that in addition to scriptural and patristic citations, he has included quotes from Philo and Josephus, "to the glory of the truth we possess, which is praised even by adversaries". Recall that in *Chapter 7 About the Holy Pascha* (§7.2), Vlastares derives support for his views from these Jewish authors, as well. The approach governing Vlastares' compilation was subsequently imitated by St. Nicodemus of the Holy Mountain in preparing his own canon law compendium, *The Pedalion*.[43]

The *Syntagma* was quickly translated into the most prominent languages of Orthodox nations, and was also paraphrased into more vernacular Greek.[44] Moreover, stand-alone excerpts of particular interest circulated among a wider audience, e.g., the discussion on marriage regulations,[45] and portions of *Chapter 7 About the Holy Pascha*.[46] Consequently, the *Syntagma* has been an invaluable resource for many generations of jurists and theologians, spiritual fathers and confessors, preachers as well as ordinary practicing

[43] = The Rudder.

[44] Rhodopoulos presents a detailed yet readable account of the history of such translations and their impact on the religious and ecclesiastical life of Slavic nations, notably of Serbia, Rumania, Bulgaria and Russia.

[45] Migne, PG 119:1225–1298. See Viscuso, p. 6.

[46] Viscuso, p. 6, mentions "manuscript 1164 of the former Gymnasium in Andrianople, which contains the work *Concerning legal Pascha and the variance of the full moon*." He notes that Paschos, 1972, pp. 810–812, "considers this to be an independent work on the basis of the epigram [referring to the work on Pascha contained in the *Syntagma*] and the [excerpted] writing's appearance in manuscripts by itself. However, [Paschos] does admit the need for further study of the problem." As noted elsewhere in this study, the work *Concerning legal Pascha and the variance of the full moon* does appear disjointed from the first part of *Chapter 7 About the Holy Pascha* and may well have been composed independently, either before or after the writing of the rest of the *Chapter*. I am not aware of any manuscripts of the *Syntagma* that do not include the excerpted work, which suggests that it had been completed before the compilation of the *Syntagma*.

Orthodox, looking for solutions to practical problems and for advice regarding personal conduct and behavior.

8 The *Chapter 7 About the Holy Pascha*. The work translated herein is found under the letter Π of the *Syntagma*, where it appears as *Chapter 7*, under the overall title of *About the Holy Pascha*.[47] The text seems to have resulted from the combination of two treatises, composed at different times by the same author and supplemented by a series of relevant holy canons and one civil law. The Greek original presented by Rhalles and Potles and by Migne is subdivided into a number of sections, which I have numbered for easier reference. The translation, therefore, encompasses 27 sections, each bearing a distinct header, in most[48] cases translated as found in one of the two sources used. Four of these section headers begin with the words Περί[49] and another with Ὅτι,[50] while thirteen other sections are presented in the form of answers to questions, posed in the section headers, which start with such words as Διὰ τί[51] or Πῶς.[52]

[47] In Greek, Πάσχα, hence the location of the text under the Greek letter Π.

[48] To enhance clarity, I have added the header Preamble to the first section, which bears no title in either of the two sources used.

[49] =About, or Concerning. This is the case with the *Chapter*'s overall title, as well as §§7.2, 7.16, and 7.18. The header for section §7.17, which complements §7.16, begins with the word Ὅτι, which means That. It is conceivable that the Preamble (§7.1), along with §7.2 (whose header appears only in one of the manuscripts used by Rhalles and Potles, and is missing altogether from Migne), as well as §§7.16, 7.17, and 7.18 constituted a stand-alone work circulated prior to the compilation of the *Syntagma*. The header to section §7.23 also begins with Περί, and along with the succeeding one, §7.24, seems to have been inserted at a subsequent point among the sections containing canons and civil legislation, presumably in response to an inquiry or controversy, regarding the issue of the Lord's third-day resurrection.

[50] = that.

[51] = For what [reason], or simply, Why. This occurs in four cases (§§7.5, 7.6, 7.7, 7.8). On one occasion (§7.4), the two Greek words are combined into a single one, Διατί, which simply means Why. On another occasion (§7.3), the question is posed using the words Τίνος ἕνεκα, which literally means On Account of What.

[52] = For what [reason], or simply, Why. This occurs in four cases (§§7.5, 7.6, 7.7,

Finally, eight sections comprise a third portion of the *Chapter*, providing pertinent canons and civil legislation.[53] The headers of sections with canons specify the name of the synod at which they were promulgated, as well as the ordinal number of the canon,[54] or else the name of the Holy Father to whom they are ascribed.[55] The header of the sole section with civil legislation reads simply Νόμος.[56]

While in several respects of external appearance *Chapter 7 About the Holy Pascha* resembles, to be sure, computistical treatises of the type that circulated frequently in the West, it would be misguided to consider Vlastares' work as solely — or even primarily — as representing an analogous Eastern Orthodox effort. Rather, it is evident from the text and from the arrangement of the material, that *Chapter 7 About the Holy Pascha* is first and foremost an *apologia* in defense of the existing, traditional method of determining the date of the Holy Pascha and of the rest of the movable feasts of the Church. The need for such an *apologia* became particularly urgent in the wake of the controversy that had been generated by contemporary astronomical observations tending to undermine what were firmly believed to be the stipulations of the Holy Fathers, as well as what had been accepted about astronomy for centuries (since Ptolemy, if not earlier), which had been shrouded over time with an almost doctrinal aura. There is every reason to believe that Vlastares was aware of the presentation in 1324 before Emperor Andronicus II by the learned sage Nicephorus Gregoras, who had gone as far as to suggest specific reforms to be applied to the Fathers' *Canonion*. Moreover, the practices of the Jews of Thessalonike also seemed to be pointing to a method of reckoning

7.8). On one occasion (§7.4), the two Greek words are combined into a single one, Διατί, which simply means Why. On another occasion (§7.3), the question is posed using the words Τίνος ἕνεκα, which literally means On Account of What.

[53] The sections with holy canons are §§7.19 through 7.22 and §§7.25 and 7.26. As noted earlier, §§7.23 and 7.24 are found interspersed inbetween these sections. The sole section with civil legislation is §7.27.

[54] e.g., Συνόδου Ἀντιοχείας α΄ = Of the Synod of Antioch 1st [Canon].

[55] e.g., Διονυσίου Ἀλεξανδρείας = [Canon] Of Dionysius of Alexandria.

[56] = Law.

that suggested a possible error in ecclesiastical computations. Such an *apologia* was, therefore, required in order to quell the concerns of the pious citizenry, many of whom were intellectual and educated enough to be able to converse on a reasonably sophisticated scientific level, but also for the practical needs of the newly created clerico-lay courts, established by Emperor Andronicus III, alluded to earlier.

In composing his *apologia*, Vlastares relies almost exclusively on two main tools: typology and astronomy. The former refers to his tendency to interpret scriptural texts, the writings of the Fathers, but even natural phenomena and scientific observations, in a symbolic and anagogic manner, for the purpose of discerning the mind or spirit of their author (and, in the case of nature, of God Himself) and extracting spiritual lessons. The most striking examples of this approach are found in sections §7.1 and §7.3.[57] Thus, in the hands of Vlastares, astronomy is often used merely to corroborate the cosmological or theological assertions and conclusions established by typology. His astronomical discussion can be subdivided further into comments on practical astronomy for the ordinary folk (§§7.2, 7.4), theoretical astronomy for the more erudite (§§7.5 through 7.8), and computistical instructions accessible to either group of readers (§§7.9 through 7.15). Interestingly, all of these sections occur in what has been identified as the first (and presumably more recent) portion of the *Chapter*, whereas the (older) second portion includes only a brief astronomical discussion, occurring in the first segment of section §7.18. The main purpose of the second portion of the *Chapter* (§§7.16, 7.17, 7.18:second segment, as well as §§7.23 and 7.24) is to provide an alternative, independent (and often redundant) statement of Vlastares' *apologia*. Both portions of the treatise are reinforced and complemented by the exposition in the third portion of a short series of holy canons, as well as of one civil law, none of which–interestingly–pertain to the *computus* or to astronomy, *per se*.

[57] These two sections flow from one another naturally, so that §7.2 appears to have been inserted subsequently between them as an afterthought, or by mistake.

9 Historical Significance. For more than three hundred years following the Gregorian reform of the calendar in A.D. 1582, the Eastern Orthodox Church had adopted a unified and unwaveringly negative stance toward the changes in the reckoning of the Paschal date introduced in the West. Coming as it did barely a century after the tragedy of the *alosis*[58] of the *Vassilevousa Polis*,[59] i.e., the fall of Constantinople to the Ottomans in 1453, the publication of the Papal Bull *Inter Gravissimas* had found the Orthodox in a mental state of siege. Obeying a deep-seated instinct, they reacted in a manner that became characteristic of their 400-year long captivity. They dusted off from their shelves respected tomes representing the Orthodox tradition, and repeated verbatim the writings of the Fathers of the past, trusting that in this manner they were fulfilling their obligation to retain unaltered their spiritual inheritance, so as to pass it on to future generations. Prominent among the works employed by the Byzantines in their response to the Papal legates arriving in Constantinople was the treatise by Matthew Vlastares *About the Holy Pascha*, which had been included in his monumental *Syntagma*. The text, translated here into English for the first time, has been quoted repeatedly since then by generations of Byzantine hierarchs, theologians and even lay-folk, in countless debates about the reform of the calendar. A few examples from two prominent representives may suffice to illustrate this point.

Patriarch Jeremias II, nicknamed *Tranos* (= the Illustrious), was Archbishop of Constantinople between 1572 and 1594.[60] He was,

[58] = capture.

[59] = the Queen City.

[60] According to Stavrides, V. Th. (1987), *Ἱστορία τοῦ Οἰκουμενικοῦ Πατριαρχείου* (*1453–Σήμερον*) (= History of the Ecumenical Patriarchate (1453–Today)), in Greek, Adelfoi Kyriakide Publishing House, Thessalonike, Greece, p. 268, the tumultuous tenure of Jeremias II was interrupted from November 1579 to August 1580 and from March 1584 through the first half of 1587. See also Gedeon, M. I. (1885), *Πατριαρχικοὶ Πίνακες* (= Patriarchal Tables), in Greek, Lorenz & Keil, Constantinople, Turkey, pp. 524–525, who adds the following interesting information (my translation): "Patriarch Jeremias gave in August of 1584 as a

therefore, uniquely responsible for articulating the Orthodox response to the calendrical change promulgated by Pope Gregory XIII (b. 1502; r. 1572–1585), and for providing guidance to the Orthodox on the issue, particularly to those living in areas prone to Roman Catholic influences, such as the Greek population of Italy and of the Ionian islands to the West of mainland Greece. On November 20, 1583, Patriarch Jeremias issued a *Tome*[61] in which he objected to the Gregorian reform, in response to an enquiry by a group of Armenians. The document consists of about 1200 words, the first half of which are devoted to establishing Constantinople's jurisdiction over the Armenians and to refuting the Pope's claims implicit in his attempt to impose the calendrical reform upon them. In the second half of his text, Jeremias cites the "four stipulations" by Vlastares, as follows: "For there being four stipulations about Pascha, the first commands that [we] should celebrate the Pascha after the Spring Equinox; the second, that [we should] not [celebrate] on the same day as the Jewish celebration; the third, [that we should celebrate] not simply after the Equinox, but [after] the first full moon after the Equinox; the fourth, that [we should celebrate] also after the full moon immediately on the first [day] of the week. Whence, let no one think in any way that those most excellent divine Fathers were not aware of this error, so that it would be subject to an improved correction by the astronomers … It would have been better for [the Roman astronomers] not to innovate and modify such [subjects], and to become the causes of not a small revolt among the churches of Christ …"

---

gift to the Pope of Rome Gregory XIII the finger of St. John Chrysostom and the hand of St. Andrew of Krisis, sending also a letter, published by Andronikos Demetrakopoulos, which denounced the teachings of the protestants and did not accept the correction of the calendar."

[61] The Greek text of the Tome can be found in Gedeon, M. I. (1888), *Κανονικαὶ Διατάξεις* (= Canonical Stipulations), in Greek, Patriarchal Press, Constantinople, Turkey, pp. 524–525; and in Sathas, K. N. (1870), *Βιογραφικὸν Σχεδίασμα περὶ τοῦ Πατριάρχου Ἱερεμίου Β΄* (*1572–1594*) (= Biographical Outline about Patriarch Jeremias II (1572-1594)), in Greek, A. Ktenas and S. Oeconomos Press, Athens, Greece, pp. 28–32.

Similarly, Jeremias cites Vlastares in his response to an enquiry by the Greek Prince of Venice, written in 1581: "Therefore, the revered Pascha, in which the capital [event] of the Lord's dispensation toward us has been worked out, was ordered by the divine Clement and also was considered by the Synod at Nicaea, and a most excellent *Canonion* was compiled by them, that would not be in need of astronomers on each occasion, and was delivered to the Church... For even if both [the passage of] time and the movement of the luminaries creates some kind of anomaly concerning the day of the Pascha, this does not compromise piety in any way. Hence, it is not appropriate either to alter the Canon of the holy Fathers nor to innovate and to instigate among the churches of Christ a cause for revolt…"

If Patriarch Jeremias II represents a voice at the beginning of the history of the unanimous opposition of the Orthodox Church to the Gregorian reform, St. Nicodemus Hagiorite is probably among the best known spokespersons for this attitude just prior to the Greek independence from the Turks and the beginning of the reconsideration of the need for calendrical reform among the Orthodox. In 1800, the first edition of the Πηδάλιον[62] was published in Leipzig of Saxony (Germany), in which St. Nicodemus and his co-author Agapius the Priest-Monk provide a paraphrase of Vlastares' views regarding the Holy Pascha, when interpreting the 7th Apostolic Canon, as follows (my translation): "About the determination of the Pascha, an outstanding *Canonion*, also one than which no better one could be made, says Matthew Vlastares, assembled and disseminated the Holy and Ecumenical First Synod, in accord with the 1st Canon of the Synod at Antioch… There are four necessary issues to be sought for our own Pascha. First, that the Pascha must be held always following the Equinox of the Spring. Second, that it should not be held on the same day with the *Nomikon Faska* of the Jews (both of these

[62] Agapios Priest-Monk and Nicodemus Monk (1800), *Πηδάλιον* (= The Rudder), in Greek, Breitkopf and Eirtel Press, Leipzig of Saxony (Germany), pp. 6–7. An English translation may be found in Cummings, D. (1957), *The Rudder*, The Orthodox Christian Educational Society, Chicago, IL, pp. 9–10.

are commanded by the present 7th Apostolic Canon). Third, that it should not be held simply and indefinitely following the Equinox, but following the first full moon of March, which shall occur after the Equinox. And fourth, that it should be held on the first Sunday which shall occur after the Equinox (now, these two we have from tradition, and not from a canon). Therefore, so that all four of these stipulations should be kept uniformly throughout the inhabited world, and so that Christians should celebrate at the same time and on the same day the Holy Pascha, and not need every year astronomers and synods, the divinely wise Fathers have articulated the *Canonion* about the Pascha. It should be noted that because of the anomaly in the movement of the moon, the fourth stipulation is not always kept, but it is sometimes violated. The reason for this is that, according to this same Vlastares, after three hundred years, two days after the first full moon, the *Nomikon Faska* happens to occur on a Sunday.[63] Now, when these two days that overflow on account of this anomaly are added, they surpass sometimes the first Sunday that shall occur following the full moon of March, on which Sunday we celebrate the Palms, and on the following one we hold the Pascha. Yet, from this small transgression, no molestation of piety follows, nor anything inappropriate, nor a spiritual danger …"

It is apparent that such texts are not always faithful to Vlastares' own writings, and that their authors do not always seem to understand the intricacies of computistical calculations. This, however, did not prevent them from maintaining their practically unassailable authority until the beginnings of the 20th century, that only the end of the Ottoman domination and scientific advances were able to shake. Interestingly, however, the inter-Orthodox debate about the calendar continues to flare up even to this day, owing to its uncanny ability to mutate into a number of other theological controversies, such as those concerning ecclesiology and ecumenism. These dimensions of the calculation of the date of Pascha certainly deserve

[63] This sentence is awkward and obscure in the original.

further exploration, but their discussion here would be beyond the scope of this book.

10 The *Computus*. "To a modern reader," writes Mary C. Welborn,[64] "the word *compotus*[65] is undoubtedly a little known term, but to those who lived in the Middle Ages it was a household word. To study or to write a *compotus* was a task often assigned to school boys; it was also one of the chief vehicles for the mathematical astronomy of the scientists and pseudoscientists. From medieval writers, who never failed to start their discussions without first defining their terms, we learn that a *compotus* is a treatise which teaches three methods of time reckoning; i.e. by the movements of heavenly bodies, by human authority, and by custom. No student in the Middle Ages, following his course of studies in the monastic or cathedral schools, or later in the universities, was allowed to omit the study of some sort of treatise on this subject. St. Augustine (354–430), bishop of Hippo, is frequently quoted by medieval writers as saying that the *compotus* was one of the seven books which all priests must know. Charlemagne insisted that the students in the palace schools and in the monasteries should include the *compotus* in their list of studies; and still later, the Oxford students who were preparing for a degree in arts were required to promise on the Gospels that they would devote so many terms or weeks to certain subjects, including 'eight whole days exclusive of holidays' to *compotus*. In all early catalogues of monastic libraries there are titles of works on this subject by the most famous writers, not only because it was necessary for them to keep track of the church festivals and saints' days, but also because astronomy was to them one of the most interesting subjects of the *quadrivium*. A study of the most important medieval *compoti* is valuable not only because they show us how the necessity and the desire for calendar reform gradually increased until it was carried through by Gregory XIII in 1582; but also

[64] Welborn, M. C. (1935), *Calendar Reform in the Thirteenth Century*, Ph.D. Dissertation, The University of Chicago, Chicago, IL, pp. 1–2.
[65] All other scholars I have consulted use *computus*, instead.

because they show us the very slow but definite evolution of medieval astronomical ideas, since only those compotists who knew astronomy could work out a true calendar."

In the same vein, Charles W. Jones[66] comments: "The *computus* so cuts across the lines of our traditional disciplines that it touches most of them. Hence this volume may contain some information for a wide variety of scholars: for political and social history, in the chronicles; for diplomatics, in the beginnings of years and eras and the times of introduction of new systems of chronology; for theology, in the relations of small and large units of time to infinity; for liturgical studies, in the establishment and development of feasts; for hagiography, in the calendars and martyrologies; for paleography, in the dates and provenience of manuscripts, since computistical manuscripts often contain more definite criteria than do other texts; for lexicography, in definitions of scientific terms; for linguistics, in the transfer to different nations of methods and words for time; for literature, in the treatment of myth and fact, in the mass of computistical verse; for plastic art, in representations and symbols of time; for metrics, in the theories of measure and accent; for numerology, in the symbolism of numbers and divisions; for geography and cosmology, in concepts of the earth and the universe; for medicine, in regimens of health; for agriculture, in weights and measures and seasonal change. Arithmetic, some forms of physics and astronomy are basic for the *computus*."

I was not prepared for the volume of the literature available on the *computus* when I first began this effort. In choosing what to include in my commentary, I relied primarily on the information that I needed myself, as much a novice in this field as my average reader might be, in order to follow the text. More experienced readers will no doubt find at least some of my footnotes superfluous or even pedantic. I trust, however, they will be sympathetic to the needs of the less

[66] Jones, C. W. (1943), *Bedae Opera de Temporibus*, Mediaeval Academy of America, Cambridge, MA, pp. viii–ix.

scholarly, and that they will find, in any case, more excellent discussions of each issue in one of the numerous publications cited. I have used the latter extensively, relying especially on the treatises by Jones, Newton, Pedersen, and Delempases, as well as the more popularized presentations offered by Richards, Heilbron and Steel, among others. Rather late in the preparation of this book, I came across two significant publications, which I have been unable to explore as thoroughly as they deserve, but which I plan to pursue in the future. These are: Stern, S. (2001), *Calendar and Community: A History of the Jewish Calendar, Second Century BCE–Tenth Century CE*, Oxford University Press, Oxford, England; and, Popovic, C. (1900), *Capitulul al Şeptelea al Literei P din Sintagma Alfabetică a lui Mateiŭ Vlastar: "Despre Săntele Pasce" sau "Despre Computul Pascal,"* Societatea Tipografică Bucovineană, Cernăuţī, formerly in Rumania, currently in Ukraine.

Matthew Vlastares

About the Holy Pascha
SYNTAGMA KATA STOICHEION
Chapter 7
of the Alphabetical Element Π

Ματθαίου τοῦ Βλαστάρεως

Περὶ τοῦ Ἁγίου Πάσχα
ΣΥΝΤΑΓΜΑ ΚΑΤΑ ΣΤΟΙΧΕΙΟΝ
Κεφάλαιον Ζ′
τοῦ Π Στοιχείου

[*7.1 Πρόλογος*]

<1>Εἶτα τὰς μὲν ἄλλας τῶν ὑποθέσεων, ἃς τὸ προκείμενον ἀπαιτεῖ σύνταγμα, τοῦ μηδὲν ἐλλείπειν τῶν ἡκόντων εἰς δύναμιν τοῖς σμικρὰ καὶ φρονοῦσι καὶ δρῶσιν ἡμῖν ἐμέλησε, <2>τοῦ δὲ σεβασμίου τοσοῦτον κατολιγωρήσομεν Πάσχα, ἐν ᾧ τὸ κεφάλαιον τῆς περὶ ἡμᾶς τοῦ Κυρίου οἰκονομίας ἐξείργασται, <3>ὡς μὴ τὰς μεθόδους αὐτοῦ, καὶ τὰς τούτων αἰτίας, ὡς οἷόν τε δήλας θεῖναι τοῖς ἀγνοοῦσι; <4>καὶ τίς ἂν ἡμᾶς δικαίας οὕτω παραιτήσαιτο μέμψεως; <5>Τοιγάρ τοι καὶ πρό γε τῶν θείων χρησμῶν, μικρά μοι δοκεῖ διαλαβεῖν ἄττα.

<6>Τοῦ Πάσχα τοῦ ἱεροῦ πολλοῦ δέομεν ἐν περινοίᾳ γενέσθαι, μηδέπω κατειληφότες τὸ νομικόν· <7>δεῖ γὰρ τοὺς τύπους ἡγεῖσθαι πρὸς τὴν τῆς ἀληθείας συντέλειαν. <8>Τὸ πάσχα τοίνυν τὸ νομικόν, Μωσῆς ἐκεῖνος ὁ πάνυ, κατὰ γε τὴν ιδ′. τοῦ πρώτου σεληνιακοῦ μηνὸς τελεῖσθαι νενομοθέτηκε. <9>Πρῶτος δὲ μήν ἐστι ὁ παρ᾽ Αἰγυπτίοις μὲν Φαμενώθ, Δίστρος δὲ παρ᾽ Ἕλλησι, Νισὰν δὲ παρ᾽ Ἑβραίοις, παρὰ δὲ Ῥωμαίοις ὀνομαζόμενος Μάρτιος· <10>ἐν ᾧ τὴν ἐναντίαν τοῦ παντὸς διϊππεύων ὁ ἥλιος, τὸ πρῶτον ἄρχεται τοῦ ζωδιακοῦ κύκλου δωδεκατημόριον εἰσιέναι, <11>ὃ δὴ καὶ ἰσημερινόν, καὶ μηνῶν ἀρχήν, καὶ κεφαλὴν τοῦ κύκλου, καὶ ἄφεσιν τοῦ δρόμου τῶν πλανητῶν, οἱ περὶ ταῦτα ἐσχολακότες φιλοῦσι καλεῖν· <12>τὸ δὲ πρὸ τούτου, μηνῶν ἔσχατον, καὶ τελευταῖον δωδεκατημόριον, καὶ τέλος τῆς τῶν πλανητῶν περιόδου. <13>Τὸν Μάρτιον δὲ πρῶτον εἶναι μῆνα πιστεύομεν, ἐξ ὧν ὁ Μωϋσῆς εἴρηκεν, ὡς κελεύσειεν ὁ Θεὸς κατ᾽ ἐκεῖνο τοῦ καιροῦ, τὰ δένδρα, καὶ τὰ ἄνθη, καὶ τὰς πόας ἀναβλαστῆσαι· <14>ὁρῶμεν δὲ οὐκ ἐν ἑτέρῳ, ἀλλ᾽ ἐν τούτῳ νόμῳ φύσεως, τοῦ Θεοῦ πληρούμενον τὸ ἐπίταγμα. <15>Ὁ μὲν οὖν εἰρημένος μήν, ὥσπερ ἄρα καὶ οἱ λοιποὶ πάντες, οὐχ ἧττον τοῖς ὀνόμασιν ἢ τῷ ἀριθμῷ τῶν ἡμερῶν διαφέρουσι παρ᾽ ἑκάστοις τῶν εἰρημένων ἐθνῶν.

[*7.1Preamble.*]

(404) *[65]* <1>Following the rest of the subjects that the present *Syntagma*[1] demands, [since] it has been a care for us, who are weak in thought and action, that according to [our] strength nothing of what is relevant should be missing, <2>would we utterly take no heed of[2] the revered Pascha,[3] in which the capital [event][4] of the Lord's dispensation toward us has been worked out, <3>even to the extent required so that we might present as clearly as possible to those who are unaware both its[5] methods and the justifications for these [methods]? <4>If that were so, who would intercede on our behalf in case of a justifiable reproof?[6] <5>Accordingly, and before [presenting] the divine decretals,[7] I am resolved to include briefly a few [subjects].[8]

<6>We ought to come upon the most sacred Pascha with circumspection, never as yet neglecting the *Nomikon*[9] [Pascha]. <7>For we must consider the types[10] in the context of the consummation of the truth. <8>Now, that famous Moses had legislated [that] the *Nomikon* Pascha be celebrated on the 14th [day] of the first lunar month.[11] <9>The first month is the one named Phamenoth among the Egyptians, and Dystros among the Greeks, and Nisan among the Hebrews, and among the Romans [it is named] March.[12] *[68]* <10>During this [month], as the sun rides along the celestial [path],[13] he[14] begins to enter the first one-twelfth portion[15] of the zodiac circle,[16] <11>which those erudite about these [matters][17] love to call the equinoctial [point],[18] and also the beginning of the months, and also the head of the circle, and also the starting-post of the course[19] of the planets. <12>And the one [-twelfth portion] before this, [the erudite love to call] the **(405)** ultimate of the months, and also the last one-twelfth portion,[20] and also the end of the circuit[21] of the planets. <13>As for March,[22] we believe it to be the first month[23] from what Moses has said,[24] as if God should command[25] during its season [every year] the trees and also the flowers and also the grasses to sprout again. <14>We observe in no other [month] but in this [month of March] God's ordinance being fulfilled through the law of nature. <15>The month that has been mentioned, as well as all the rest alike, are distinguished among each individual

NOTES:

1. =Compilation, Compendium. Written *c.* A.D. 1335 (§§7.9.2; 7.11.1; but also see §§7.10.11n; 7.11b.11; 7.18.44n, 47n; and elsewhere). Cf. Viscuso, P.D. (1988), *A Byzantine Theology of Marriage: The Syntagma kata stoicheion of Matthew Blastares*, Ph.D. dissertation, Catholic University of America, Washington, D.C., pp. 1, 25–30. Bold superscripts in parentheses, e.g., **(404)**, denote the page numbers from the edition of the Greek original by Rhalles, G.A. and Potles. M. [Γ.Α. Ῥάλλη καὶ Μ. Ποτλῆ] (1852–1859), *Σύνταγμα τῶν θείων καὶ ἱερῶν κανόνων τῶν τε ἁγίων καὶ πανευφήμων ἀποστόλων, καὶ τῶν ἱερῶν οἰκουμενικῶν καὶ τοπικῶν συνόδων καὶ τῶν κατὰ μέρος ἁγίων πατέρων* (=Compilation of the divine and sacred canons of the holy and most-laudable apostles as well as of the sacred ecumenical and regional synods and of the holy fathers in various locations), in Greek, 6 vols., G. Chartophylax and Avge Publishers, Athens, Greece, Vol. 6, pp. 404–428, used as the primary source; italic superscripts in square brackets, e.g., *[65]*, denote the column numbers from the edition of the Greek original by Migne [J.-P. Migne, *Patrologiæ Cursus Completus... Series Græca Posterior*, Paris, France], *PG* 145 [Vol. CXLV, dated 1865: "Georgius Pachymeres *Opera Omnia* and Matthæus Blastares *Syntagma Canonum*"], Columns 65–108, employed as the secondary source. For easier reference, I have numbered the sections into which Chapter 7 *About the Holy Pascha* is found divided in the original sources; section numbers span 7.1 through 7.27. For the same purpose, I have also subdivided each section into a number of verses, assigning to these verse numbers as superscripts in angular brackets, e.g., <3>. Consequently, for example, verse <3> of section 7.2 is referred to as §7.2.3; a footnote to this verse is referred to as §7.2.3n.

2. In his use of the relatively rare verb κατολιγωρεῖν, Vlastares is probably echoing Eusebius of Caesarea (d. *c.* A.D. 340) i*n Life of Constantine*, 3rd Oration, Chapter I, verse 2: "The King [Constantine], who was loved by God, undoubtedly did not neglect [or utterly take no heed of] all that was appro-

nation mentioned, no less with regard to [their] names than to [their] number of days.

priate to him, and enacting everything in opposition to what had just a short while earlier been dared by the tyrannical brutality, he was more mighty than any enemy or adversary."

3. "*Pascha* we call the death of the Lord and Resurrection." See *Chronicon Paschale*, Migne, *PG* 92:553.

4. Gr. κεφάλαιον, which could also mean chapter, beginning and/or accomplishment, totality, head, crown, fountainhead, etc. Its use at this point rings of the opening verse of the *apolytikion* (= dismissal hymn) of the feast of Annunciation (March 25): "Today [marks] the κεφάλαιον of our salvation, and the manifestation of the mystery [that was proclaimed] from all ages." The intimate connection between this feast and the feast of the Holy Pascha is highlighted in §7.4 of Vlastares' text, as well as in additional footnotes.

5. = the revered Pascha's.

6. Vlastares may be hinting at the negative reaction to the presentation and suggestion for calendrical reform in A.D. 1324 by Nicephorus Gregoras (*c.* 1295–*c.* 1360) in the court of Emperor Andronicus II (r. 1282–1328); Gregoras was spared of any further mistreatment solely because the Emperor himself had been well-disposed toward him. See Nicephorus Gregoras, *Byzantine History*, Oration 8, Chapter 13 (Niebuhr, B. G., *Corpus Scriptorum Historiae Byzantinae*, Pars XIX, Vol. I, L. Schopen, Ed., Bonnae, Prussia: 1829, pp. 364–373). Gregoras also commented on the judicial reform promulgated beginning in 1329 by Emperor Andronicus III (r. 1328–1341), which presumably precipitated the publication of Vlastares' *Syntagma* (cf. Viscuso, pp. 45–52).

7. See §§7.19–ff. for the pertinent Canons; but also see §7.16 for the *Canonia*, and §7.17 for the "four stipulations." It is postulated that Vlastares put together this Chapter by joining two pre-existing stand-alone works. The first deals with a series of frequently asked questions concerning astronomical issues pertaining to the date of Pascha (§§7.1.9–7.13, inclusive). Vlastares dis-

cusses the theological significance of such seemingly scientific pursuits, extracting his teaching through the use of typology and symbolism. The second part of the Chapter (§§7.16–7.18, inclusive) presents succinctly the "*Canonion* of the Fathers," which ostensibly regulates in perpetuity the calculation of Paschal dates, and reiterates in greater astronomical detail the issues related to the full moon and the Equinox. The purpose of the discussion is to address the immediate pastoral (and possibly legal) problem evidently existing in 14th century Thessalonike, Greece (Vlastares' home-town), where the Jewish community seemed to celebrate Passover too early, creating concerns among the Christian population as to the validity of their own calendrical observations. The reiteration and elaboration of the stipulations concerning the Equinox reaffirms that Vlastares considered this astronomical event, its typology and symbolism, to be so central to the Paschal mystery that it justified a departure from the Jewish practices of his day. Although not entirely free of anti-Jewish sentiments, Vlastares explains that not celebrating "with the Jews" aims primarily at preserving the centrality of the Equinox in Paschal calculations. The process of combining these two parts is introduced in the evidently hastily composed first paragraph of the Chapter (§7.1.1–5), where the two constitutive documents are succinctly titled as "brief subjects" and "divine decretals," respectively. The listing of Canons (§§7.19–7.26, inclusive) and of a law (§7.27) may have been appended at the time of composing the Chapter, in response to the judicial reform of 1329, which underscored the legal dimensions of the pastoral issues related to the celebration of Pascha (cf. Viscuso, pp. 40–53). The place in the work and the provenance of §§7.14–7.15, which discuss the computistical algorithms for the Christian Pascha and the *Apokreos*, respectively, require further study. It is tentatively suggested that these sections were part of the second document, originally occurring after §7.18, from where they were re-sequenced either by Vlastares himself or by a later scribe. Evidence for similar repositioning of other shorter sections of the Chapter is provided by §7.13b.12–14, §7.15a, and possibly by other cases of verbatim repetitions of text at different locations in individual manuscripts.

8. The break into a new paragraph at §7.1.5 is uncharacteristic (it is missing in Migne), confirming the addition of the preceding text to the pre-existing document of §7.1.6–ff. Other such breaks occur at §7.2.13 (present in Migne, as well), where the break separates §7.2.1-13 (i.e., the reiteration and summary of the main points to be presented later in §7.18), from the rest of the pre-existing text of §7.2.14–ff.; at §7.13b.7 (also found in Migne) and at §7.13b.11 (a section missing in Migne and found only in a footnote in Rhalles and Potles), where the breaks probably denote later insertions or modifications to the document; and at §7.20.5 (occurring in both sources), where an uncommon cross-reference to another section of the *Syntagma* has been added. It is noted, however, that such cross-references are common elsewhere in Vlastares' *Compendium* (cf. Viscuso,

p. 42). The entire composition of Chapter 7 *About the Holy Pascha* is uncharacteristic of the rest of the *Syntagma*, presumably because it had been accomplished largely out of pre-existing works.

9. = Legal; of the (Mosaic) Law.

10. = prefigurings; symbols (Gr. τύπος); cf. *Chronicon Paschale*, Migne, *PG* 92:544; also, Rom 5:14; 1 Cor 10:6, 11. Similarly, "our Passover" (1 Cor 5:7); "lamb of God" (Jn 1:29).

11. Ex 12:2, 6. See also Lev 23:5, Num 9:3. According to these stipulations, the Paschal lamb is sacrificed as the 14th of Nisan is coming to its end (in the early afternoon) and the first Passover meal (*seder*) is eaten a few hours later after sundown, when according to Jewish reckoning, Nisan 15 has already begun. It is traditional among the Jews to call Nisan 15 as "the first day of Passover" (*hag ha-Pesah*), and also as "the first day of the feast of the Unleavened Bread" (*hag ha-Mazzot*). In contrast, Christian mediaeval writers, including Vlastares, most often have Nisan 14 in mind when referring to Passover, or the Pascha of the Law, or the *Nomikon Faska*. Further confusion is frequently created by differences in reckoning the start and end of the day among the Jews (at sundown) and among the gentiles — Roman, Greek or Byzantine — (at or shortly after midnight). Thus, referring to the period between sunset and midnight on a given day, a Jew might call it Nisan 15, whereas a Christian "Nisan" 14. Some scholars call the former "lunar Nisan 15," and the latter "solar Nisan 14." See also §7.2.46n.

12. For a discussion of the ancient Egyptian calendar, see Finegan, J. (1998), *Handbook of Biblical Chronology*, Revised Edition, Hendrickson Publishers, Peabody, MA, pp. 18–25. Vlastares here refers to the so-called "fixed Alexandrian" calendar, in which March 1 corresponded to Phamenoth 5; this month occurred after Mecheir and before Pharmuthi. All twelve Egyptian months had 30 days, with either 5 or 6 epagomenal days, making up the difference to the length of the Julian year. For a discussion of the Greek (Athenian and Delphic) calendar, see Finegan, pp. 50–51. Vlastares, however, is referring here to the Macedonian calendar, also discussed in Finegan, pp. 51–64. The prominence of the latter is attributable to the conquests of Alexander the Great. The correspondence between the Macedonian and the Julian months varied according to location and time period. Dystros, occurring after Peritios and before Xanthikos, started on March 1 in the Syro-Macedonian calendar of the second century A.D. Elsewhere and at other times, March corresponded wholly or in part with Xanthikos, Artemisios, or even Daisios. For a discussion of the ancient Israelite (old Canaanite) calendar, see Finegan, pp. 29–33. The calendar Vlastares refers to here (and the one commonly called the Hebrew calendar) is actually the Babylonian calendar as adopted in Palestine (see Finegan, pp. 33–39). According to this calendar, Nisan is equivalent to Julian March/April, and occurs between Adar (February/March) and Iyyar (April/May). The name 'Nisan'

is first encountered in the Old Testament in Esther 3:7, where it is called 'the first month;' Nisan is also explicitly mentioned in Neh 2:1. Such references suggest that Nisan and several other month names were introduced around the 4th century B.C. Prior to the Babylonian exile, the first month was called Abib (Ex 13:4, 23:15, 34:18; Deut 16:1). According to Finegan, p. 30: "This word means a 'fresh ear' of grain, as in Lev 2:14, and is used of barley when it is 'in ear,' as in Exod 9:31; hence used as a month name and with the article, 'the Abib,' it refers to the period when the barley shoots into ear." Note that the Babylonian exile is variously dated: "It is plain that Eusebius [in his *Chronicle*] counts the captivity as extending from the destruction of the temple in 590 B.C. to the time when the returned exiles were free to resume the rebuilding of the temple in 520 B.C., making seventy years … In Jeremiah 29:10 the promise of the Lord is to bring the people back 'when seventy years are completed for Babylon.' In the history of the ancient Orient the defeat in 609 B.C. of Ashur-uballit II, ruler in the western city of Haran of the last remnant of the Assyrian empire, by Nabopolassar of Babylon, marked the end of that empire and the rise to power of the Babylonian empire. Then in 539 Cyrus the Persian marched in victory into Babylon and the seventy years of Babylon and the seventy years of Jewish captivity were 'completed' (609 – 539 = 70)." See Finegan, pp. 177–178.

13. Literally, the [path that is] opposite to the entire world. Writing in the first half of the 14th c., Vlastares subscribed to a geocentric universe, in which the sun rotated around the earth in accordance with the planetary theory developed by Claudius Ptolemy of Alexandria (*c.* A.D. 125–*c.* 180) in his classical treatise *Almagest* (*Μαθηματικὴ Σύνταξις*). Ptolemy had drawn heavily on the work of earlier Greek astronomers and philosophers, notably Apollonius of Perga (3rd c. B.C.) and Hipparchus of Nicaea (*c.* 190–*c.* 120 B.C.), who themselves had followed the ideas of Eudoxus of Cnidos (*c.* 400–347 B.C.), Callippus of Cyzicus (*c.* 370–300 B.C.), Aristotle of Stagira (384–322 B.C.), and others. Ptolemaic planetary theory remained influential until the 16th c., when Nikolaus Copernicus (1473–1543) set forth his idea of a sun-centered planetary system in *De Revolutionibus Orbium Coelestium*, which nonetheless still relied extensively on the *Almagest.* The heliocentric theory was first stated by the followers of Pythagoras (572–*c.* 500 B.C.), who had advanced it as a philosophical principle. It was subsequently promoted with astronomical observations by Aristarchus (*c.* 310–250 B.C.). See *Encyclopedia of Cosmology*, Hetherington, N.S., Editor (1993), Garland Publishing, Inc., New York, NY, pp. 513–544; Pickering, J.S. (1973), *1001 Questions Answered About Astronomy*, Dodd, Mead & Co., New York, NY, pp. 375–377; Stevens, W.M. (1995), *Cycles of Time and Scientific Learning in Medieval Europe*, Variorium, Aldershot, Great Britain, pp. I50–51; Hoyle, F. (1962), *Astronomy*, Crescent Books, Inc., London, Great Britain, pp. 85–86, 97–98; Strahler, A.N. (1963), *The Earth Sciences*, Harper & Row, New York, NY, pp. 7–8.

14. = the Sun. The use of the personal pronoun "he" is explained in §7.3.4n.

15. = Aries, the Ram (Gr. Κριός). See also §§7.3.5; 7.18.14.

16. Also known as the ecliptic, this is the imaginary circle that the sun observed from the earth appears to traverse during the annual cycle. It is an essential aspect of the solar theory of Hipparchus and Ptolemy, and it is marked by the traditional twelve constellations. The latter are "apparent arrangements of stars in the sky, usually named after ancient gods, heroes, animals or mythological beings; now an internationally agreed-upon region of the sky containing a group of stars." See Hetherington, pp. 516–517; Zeilik, M. (1991), *Astronomy: The Evolving Universe*, 6th Ed., John Wiley & Sons, Inc., New York, NY, pp. 1–9.

17. Vlastares is teasing astronomers at this point, hinting also to his admiration for their scientific skills, and his respect for their opinions.

18. The expression "equinoctial point" appears repeatedly in the *Almagest*. Zeilik, pp. 8–9: "The sun's location in the zodiac roughly indicates the time of year. Twice yearly, in spring and fall, the equinoxes occur. The summer and winter solstices mark two other key times." Pasachoff, J. M. (1989), *Contemporary Astronomy*, 4th Ed., Saunders College Publishing, Philadelphia, PA, pp. 55–56: "The celestial equator is the projection of the earth's equator onto the sky, and the ecliptic is the sun's apparent path through the stars in the course of a year. The vernal equinox is one of the intersections of the ecliptic and the celestial equator and is the zero-point of right ascension, the celestial analogue of longitude." Strahler, p. 58: "The equinoxes and solstices can be described as points on the ecliptic circle of the celestial sphere occupied by the sun when its declination is either zero or at the maximum values of 23½° N or S. The two equinoxes and solstices may also be defined as points in the earth's orbit."

19. Alternatively, race (Gr. δρόμου). Rhalles and Potles mention in a footnote that source B (*Synodikon* by Beveregius, A.D. 1672) replaces δρόμου by νόμου (= law).

20. = Pisces, the Fishes (Gr. Ἰχθεῖς).

21. Literally, period (Gr. περιόδου). Much of §7.1.9–11 is a verbatim reproduction of Eusebius' *Ecclesiastical History*, Book 7, Chapter 32:14–15 (*c.* A.D. 335), which itself constitutes a citation from the *Περὶ τοῦ Πάσχα Ἀνατολίου Κανόνες* (= Canons of Anatolius about the Pascha). Anatolius of Alexandria (or Laodicea) flourished c. A.D. 270. See Boyle, I. (1955, reprinted 1981), *The Ecclesiastical History of Eusebius Pamphilus*, Baker Book House, Grand Rapids, MI, pp. 312–313; Roberts, A. and Donaldson, J., Editors (1886, reprinted 1968), *The Ante-Nicene Fathers*, Vol. 6, W. B. Eerdmans, Grand Rapids, MI, p. 146–147.

22. According to Vlastares, it is the season of natural regeneration that is essential to the symbolism that explains the dating of Pascha. Therefore, he is not in the least vested in the use of one particular calendar in preference to

another, or of one nation's month name over any other; the feast of Pascha is associated with the perpetual rhythm of nature, a divine calendar of sorts, and is not bound by any reckoning derived by human convention.

23. Rhalles and Potles indicate in a footnote that the word "month" is missing in source B (*Synodikon* by Beveregius, A.D. 1672).

24. Ex. 12:2, 13:4, 23:15, 34:18; cf. Deut. 16:1. At the time of Moses (*c.* 1250 B.C.), the name of the first month was "Abib," which literally means "when the barley shoots into ear" (Finegan, pp. 30, 203). Note that the Exodus is variously dated, with 1250 B.C. being offered as a date "well supported in terms of historical relationships," along with other options, including 1446 B.C. (based on 1 Kgs 6:1); 1468 B.C. (based on Demetrius); or even 2738 B.C. (based on Eupolemus). See Finegan, pp. 203, 206, 244, 202, 145.

25. Cf. Gen 1:11–12, the third day of creation.

[*7.2*] *Περὶ ἰσημερίας*.

<1>Τήν γε μὴν ἰσημερίαν, ἡ μὲν τοῦ παντὸς φύσις, τὸν αὐτὸν ἀεὶ χρόνον καθ᾽ ἕκαστον ἔτος ποιεῖ, τῷ πολλὴν φέρειν ἀεὶ πρὸς ἑαυτὸ τὴν ἰσότητα τὸ τοῦ ἐνιαυσίου χρόνου διάστημα· <2>ὁ ἀριθμὸς μέντοι τῶν ἡμερῶν τε καὶ μηνῶν, ὅ,τε τοῖς ἄλλοις εἰωθὼς ἔθνεσι, καὶ ᾧ κατὰ Ῥωμαίους ἡμεῖς χρώμεθα, οὔτε τὴν αὐτὴν ὥραν, οὔτε τὴν αὐτὴν ἡμέραν συγχωρεῖ γίνεσθαι. <3>Ἐπεὶ γὰρ τὸ ἐνιαύσιον μέγεθος, πρὸς ταῖς τξε′. ἡμέραις, καὶ τέταρτον ἔγγιστα προλαμβάνει, <4>ὅταν ᾖ ἡ ἰσημερία περὶ μεσημβρίαν, τὸ μὲν ἑξῆς ἔτος ἔσται περὶ δύσιν ἡλίου, τὸ δὲ ἑξῆς, περὶ μέσας νύκτας, καὶ οὕτω μέχρι παντός. <5>Ἐπεὶ δ᾽ αὖθις ἡ ἐπὶ τξε′. ἡμέρας ἐπουσία, οὐχ ὅλον τέταρτον ἡμέρας περιέχει, ἀλλὰ παρὰ τριακοσιοστόν, ὡς προϊόντες ἀκριβέστερον δείξομεν, <6>ἡμεῖς δὲ τῷ τῶν ἡμερῶν καὶ μηνῶν ἀριθμῷ κατὰ Ῥωμαίους χρώμεθα, ὡς τοῦ τετάρτου ἀεὶ τελείου προσγινομένου, <7>καὶ παρὰ τοῦτο κατὰ τέσσαρας ἐνιαυτοὺς μίαν ἡμέραν ταῖς τξε′. προστίθεμεν, ἐξ ἀνάγκης τὴν ἰσημερίαν συμβαίνει ἐν τοῖς τ′. ἐνιαυτοῖς πρὸ μιᾶς ἡμέρας γίνεσθαι· <8>οἷον, ἐπεὶ κατὰ τὸ παρὸν ἡ ἰσημερία ἐπιλελόγισται ἡμῖν γινομένη τῇ ὀκτωκαιδεκάτῃ τοῦ Μαρτίου μηνός, μετὰ τριακόσια ἔτη, ἔσται τῇ ἑπτακαιδεκάτῃ· <9>εἶτα μετὰ ἕτερα τοσαῦτα, τῇ δεκάτῃ ἕκτῃ, καὶ οὕτως ἀεί· <10>καὶ γὰρ κατὰ τοὺς χρόνους Ναβουνασάρου περὶ λῆξιν ἑσπερίαν ἐτύγχανεν οὖσα τῆς τοῦ Μαρτίου πέμπτης καὶ εἰκοστῆς· <11>ἐν δὲ τοῖς Φιλίππου τοῦ Ἀριδαίου, περὶ μεσημβρίαν τῆς τετάρτης καὶ εἰκοστῆς αὐτοῦ· <12>ἡνίκα δὲ ὁ Χριστὸς τὸν σωτήριον ὑπὲρ ἡμῶν ὑπήρχετο θάνατον, περὶ μέσην νύκτα τῆς κγ′. τοῦ αὐτοῦ μηνός· <13>ἐφ᾽ ἡμῶν δὲ νῦν, ὡς δεδήλωται, περίπου τὴν δεκάτην ὀγδόην αὐτοῦ.

<14>Οἱ μὲν οὖν λογιώτεροι τῶν Ἑβραίων, καὶ μάλιστα οἱ τὴν Ἰουδαίαν οἰκοῦντες, οἷος ἦν Ἰώσηπος καὶ Φίλων, ἄνδρες φιλοσοφίας ἁπάσης ἐπ᾽ ἄκρον ἐληλακότες, οὐκ ᾤοντο δεῖν πρὸ τῆς ἰσημερίας τὸ νομικὸν ἄγειν πάσχα· <15>αὐτοὶ γὰρ οὗτοί φασι δεῖν τὰ διαβατήρια θύειν ἐπίσης ἅπαντας μετὰ ἰσημερίαν ἐαρινήν, μεσοῦντος τοῦ πρώτου μηνός· <16>οἱ δὲ ἀγροικότερον διακείμενοι, καὶ πανταχῆ τῆς οἰκουμένης διεσπαρμένοι, πρῶτον ἐξ ἀμαθίας μῆνα ὑπολαμβάνοντες, ἐν ᾧ τὴν ἐαρινὴν γίνεσθαι συμβαίνει μό-

[*7.2*] *About the Equinox.*[26]

<1>As to the Equinox[27] itself, the universal nature holds [it] always at the same time[28] during each year, thereby bringing about always the same precise equality of the annual time interval.[29] <2>Yet, the number of both the days and of the months, which is also customary to the other nations, and which [number] according to the Romans[30] we make use of, does not permit[31] [the Equinox] to occur either at the same hour or on the same day.[32] <3>For because the annual length is about 365 days, but includes also most closely one quarter [of a day],[33] <4>when the Equinox should happen to be around noon [in one year], during the next year it will be around sunset, and during the following one around midnight,[34] and thus until for ever. <5>But because again the day following the 365 days does not contain the entire one-quarter of a day, but [is short] by one three-hundredth[35] [of a day], as we shall demonstrate more precisely when we come to it later,[36] <6>and [because] we make use of the number of days and of the months according to the Romans, as if the quarter were always perfectly accrued, <7>and for this reason every four years we add one day to the 365 [days],[37] by necessity the Equinox occurs every three hundred years one day earlier.[38] <8>For instance, because at present the Equinox is reckoned among us to occur on the 18th [day] of the month of March, after 300 years[39] it will be on the 17th. <9>Subsequently, after another equal number [of 300 years] on the 16th, and thus for ever.[40] <10>Moreover, during the age of Nabonassar,[41] it occurred around the end of the afternoon of the 25th of March;[42] **(406)** <11>and in that of Philip the Arrhidaeus, around noon of its 24th;[43] <12>and when Christ was undergoing his salvific death for us, around midnight of the 23rd of the same month;[44] <13>and in our own [age] now, as has been stated,[45] around its 18th.[46]

<14>Now,[47] the more educated of the Hebrews, and especially those living in Judaea, such as were Josephus[48] and Philo,[49] men who had traversed[50] the entire philosophy to its end, did not consider it appropriate to hold the *Nomikon* Pascha before the Equinox.[51] <15>For they themselves say that every one should sacrifice the Passover [lambs]

νον ἰσημερίαν, <17>εἴτε δὲ πρὸ ταύτης, εἴτε μετὰ ταύτην ὁ πλησιφαὴς ἀπαντᾷ τῆς σελήνης σχηματισμός, οὐδ᾽ ὁτιοῦν μέλον αὐτοῖς, <18>οὔτε μὴν εἰ μήπω καθαρῶς τοῦ τῆς ἰσημερίας σημείου ἐπέβη ὁ ἥλιος, ἐν τούτῳ ἀσυντηρήτως καὶ πρὸ τῆς ἰσημερίας ἐπετέλουν τὸ πάσχα· <19>περὶ ὧν μοι δοκεῖ καὶ ὁ ζ′. τῶν θείων Ἀποστόλων κανὼν διορίζεσθαι, ἀφορισμὸν καταψηφιζόμενος, εἴ τις τῶν τοῦ κλήρου, τὴν ἁγίαν τοῦ πάσχα ἡμέραν μετὰ Ἰουδαίων πρὸ τῆς ἐαρινῆς τελέσειεν ἰσημερίας· <20>ἐπεὶ γὰρ οὐ διεζευγμένως ὁ κανὼν ἐπιτιμᾶσθαι θεσπίζει, τὸν μετὰ Ἰουδαίων, ἢ πρὸ τῆς ἐαρινῆς ἰσημερίας ἑορτάζοντα, τὸ εἰρημένον ἄνωθεν νοεῖν ὑποτίθησι. <21>Συμβαίνει δέ, πέμπτον τῆς σελήνης κύκλον διερχομένης, ᾧ τινι ἐξ ἀνάγκης ὁ εἰκοστὸς ὄγδοος θεμέλιος ἔπεται, (οὕτω γὰρ τοῖς πολλοῖς ὁ περιττεύων ἀπὸ τῶν αὐτῆς κύκλων τῶν ἡμερῶν ἀριθμὸς ὀνομάζεται), <22>καὶ περί που τὴν τοῦ Μαρτίου ἑπτακαιδεκάτην τὸ πλησιφαὲς ἀκριβῶς ὑπολευκαινούσης, ἐκείνους μὲν ἀνεπιστημόνως πάνυ καὶ προπετῶς τηνικαῦτα τὴν ἑορτὴν ἄγειν· <23>τοῦτο γὰρ ἔτι καὶ νῦν ὁρῶμεν παρανόμως ποιοῦντας, τοὺς ταῖς ἡμετέραις πόλεσιν ἐπιχωριάζοντας· <24>ἡμεῖς δὲ τὸ ἀδεὲς ἡμῖν αὐτοῖς περιποιούμενοι, καὶ ὡς οὐχ ὅσια δρῶσι πολλὰ χαίρειν αὐτοῖς φάσκοντες, ἐπὶ τὸν ἑξῆς σεληνιακὸν ἐπειγόμεθα μῆνα, ὃν αἱ τοῦ Ἀπριλίου ἀριθμεῖν ἡμέραι πεφύκασιν, <25>ἡνίκα καὶ μακρῷ τῷ τῶν ἡμερῶν διαστήματι διέχειν συμβαίνει τοῦ παρ᾽ Ἰουδαίοις τὸ ἡμέτερον πάσχα· <26>οὕτω γὰρ οἱ θεῖοι Πατέρες σοφῶς ἄγαν καὶ ἠκριβωμένως ἐσκόπησαν, τοὺς τῶν θείων Ἀποστόλων θεσμούς, <27>παντὸς μᾶλλον οἰκονομούμενοι τὸ βέβαιον ἔχειν, οὐ μὴν εἰ μετὰ τὴν ἐαρινὴν ἐκείνην τὸ πάσχα τελέσουσιν ἰσημερίαν, συνεορταστέον αὐτοῖς· <28>τοῦτο γὰρ καὶ ὁ τῆς ἐν Ἀντιοχείᾳ πρῶτος ἀπαγορεύει κανών, ἐξεπίτηδες, ὡς ἔοικε, τὸν νοῦν ἑρμηνεύων τοῦ Ἀποστολικοῦ τοῦδε κανόνος, <29>ὅτι δύο τίθησιν ἐπὶ τοῦ πάσχα διορισμοὺς ὁ κανών, εἰ καὶ οὕτω τὸν λόγον προήγαγε, τοῖς Ἰουδαίοις ἡμᾶς μὴ συνεορτάζειν, καὶ τὴν ἐαρινὴν περιμένειν ἰσημερίαν, <30>οἷς ἕτεροι δύο ἐξ ἀνάγκης ἐπηκολούθησαν, ἄγειν τε τὴν ἑορτὴν εὐθὺς τῇ πρώτῃ μετὰ τὴν ἰσημερίαν πανσελήνῳ, <31>καὶ μετὰ ταύτην μὴ ἐν οἱᾳδήποτε τῶν ἡμερῶν ἁπλῶς, ἀλλ᾽ ἐν τῇ πρώτῃ μετὰ τὴν πανσέληνον εὐθὺς τῆς ἑβδομάδος ἡμέρᾳ. <32>Καὶ

together after the Spring Equinox, as the first month is at its midpoint. <16>But those who dwell in more rural areas, and [those who] are dispersed all over the inhabited world, considering on account of ignorance that the first month is merely the one during which the Spring Equinox occurs,[52] <17>and [that] the fully illumined configuration of the moon[53] may be encountered either before [the Spring Equinox] or after it, and this was no great concern *[69]* of theirs,[54] <18>but not even whether the sun clearly surpassed the equinoctial point,[55] on account of this [consideration] they celebrated in contravention [of the Law][56] the Pascha even before the Equinox. <19>It seems to me that it is concerning them that the 7th Canon of the divine Apostles[57] also stipulates the imposition of excommunication, should any of the clergy hold the holy day of Pascha with the Jews[58] before the Spring Equinox. <20>For because the Canon[59] ordains to impose penalty without distinction upon the one who celebrates either with the Jews or before the Spring Equinox, it suggests the thought mentioned above.[60] <21>And it so happens [nowadays] that when the moon is going through [her][61] fifth cycle, to which corresponds by necessity the 28th *themelios*[62] (for thus is named by many the remainder number of days from her cycles [over a solar year]), <22>and while the full illumination is precisely shining around the 17th of March,[63] some of them[64] most ignorantly[65] and rudely hold the feast at this time.[66] <23>For this is what we now again observe them[67] doing in violation of the Law, those [Jews] that inhabit our own cities. <24>As for us, preserving that which is the cause of no fear [of sin] to us on account of them,[68] and wishing them to be very happy [even] as they act in an unhallowed manner, we hurry unto the next lunar month, which the days **(407)** of April naturally number, <25>for which very reason a lengthy interval of days happens to separate our own Pascha from that [celebrated] among the Jews. <26>For thus did the divine Fathers[69] very wisely and precisely contemplate the ordinances of the divine Apostles,[70] <27>above all taking care to be certain[71] that even when they[72] should celebrate[73] the Pascha after that particular[74] Spring Equinox, they[75] should not feast along with them.[76]

οἱ μὲν ἄλλοι τῶν διορισμῶν ἔτι καὶ νῦν βεβαίως διατηροῦνται· <33>ἡ δὲ μετὰ τὴν πανσέληνον πολλάκις ἡμῖν ὑπερτίθεται κυριακή, τῷ δύο προστίθεσθαι ἡμέρας ἑκάστου ἔτους τῷ πάσχα τῷ νομικῷ, καὶ μετ᾽ ἐκείνας ἐπὶ τὴν κυριακὴν ἔρχεσθαι. <34>Συνέβη δὲ τοῦτο οὐκ ἐξ ἀγνοίας ἢ ἀπειρίας τῶν θεσπισάντων Πατέρων τὸν περὶ τοῦ πάσχα τουτονὶ νόμον, ἀλλὰ τῷ δρόμῳ τῆς σελήνης τὰ τῆς αἰτίας ἀναφέρεται ταύτης· <35>ἐπειδὴ γὰρ αὖθις τὸ ἐνιαύσιον κίνημα δι᾽ ἡμερῶν ἀποκαθίσταται τριακοσίων ἑξήκοντα πέντε καὶ τεταρτημορίου ἡμέρας ἔγγιστα, ὡς εἴρηται, <36>αἱ δὲ μέσαι τῆς σελήνης κατὰ μῆκος πάροδοι οὐκ ἀποκαθίστανται ἐν ὅλοις ἔτεσι ιθ′. τοῖς κατὰ προσθήκην τοῦ τετάρτου ἀριθμουμένοις, ἀλλὰ παρὰ μιᾶς ἡμέρας ἑξηκοστὰ πρῶτα τρία, καὶ δεύτερα τριάκοντα ἑπτά, <37>τούτου χάριν ἐν τδ′. ἐνιαυτοῖς, οὐχ ὅλοις πάλιν, ἀλλ᾽ ἐλαττουμένοις ἡμέρας οὐδέν, ἑξηκοστὰ πρῶτα νζ′. καὶ δεύτερα νβ′, ἤτοι μίαν ἡμέραν ἔγγιστα, ἡ εἰρημένη γίνεται ἀποκατάστασις· <38>διὰ δὴ τοῦτο ἀρτίως δύο μετὰ τὴν πανσέληνον ἡμέραι εὑρίσκονται προστιθέμεναι ἐν τῇ τοῦ νομικοῦ πάσχα εὑρέσει, <39>τῆς πανσελήνου μὴ δυναμένης καταλαβεῖν ἀρτίως τὴν ὁρισθεῖσαν τότε τοῖς Πατράσι ποστὴν τοῦ μηνός, ἐλαττουμένης, ὡς εἴρηται, ἐν τριακοσίοις τέσσαρσιν ἔτεσι, μίαν ἡμέραν ἔγγιστα. <40>Καὶ τοιαύτην μὲν ὁ χρόνος περὶ τὴν ἡμέραν τοῦ πάσχα, καὶ ἡ τῶν φωστήρων κίνησις τὴν ἀνωμαλίαν πεποίηκε· <41>τῇ εὐσεβείᾳ γε μὴν οὐδοπωστιοῦν τοῦτο λυμαίνεται, ὅτι μὴ καὶ τὰ μεγάλα συμβάλλεται· <42>περιφανεστέρα γὰρ ἐντεῦθεν ἡ διάστασις δείκνυται τῆς τε τοῦ νομικοῦ καὶ τοῦ ἡμετέρου τελετῆς πάσχα, οὐ μιᾶς ἡμέρας, ὡς τότε, ἀλλὰ τριῶν μεσολαβουσῶν τοὐλάχιστον. <43>Διὰ γὰρ τοῦτο πάντως καὶ τὴν ἡμέραν οἱ Πατέρες μετενηνόχασιν ἐπὶ τὴν κυριακήν· <44>εἰ δ᾽ ἐν κυριακῇ τὸ νομικὸν τύχοι πάσχα, ἐπὶ τὴν ἑξῆς μεταβαίνειν διωρίσαντο, <45>τὴν θεομάχον καὶ ἀνέορτον αὐτῶν ἑορτὴν ἡμᾶς ἐκτρέπεσθαι, {<46>καὶ μακρῷ τῷ διαστήματι τὴν ἡμετέραν ἐκείνης πᾶσι τρόποις ἀποδιΐστασθαι, ἐν καλῷ κεῖσθαι σκοπήσαντες.} <47>Ταῦτα δὲ πλατυκώτερον ἡμῖν προϊοῦσι δειχθήσεται, ἔνθα καὶ κανόνια ἐκτέθεινται, <48>τήν τε ἰσημερίαν καὶ τὰς πανσελήνους ὁλοσχερέστερον ἑρμηνεύοντα, καὶ ἐν ποίοις ἔτεσι φανερῶς ἡ τῶν συζυγιῶν διαφορὰ δείκνυται.

<28>For this[77] does the first Canon of the [Council] at Antioch[78] forbid as well, deliberately, as it seems, interpreting the spirit of this particular Apostolic Canon,[79] <29>inasmuch as the Canon[80] imposes two stipulations[81] upon the Pascha, even as in this manner it promulgated the explanation,[82] that we should not concelebrate with the Jews, and that we should wait for the Spring Equinox. <30>After these [stipulations] by necessity two more followed,[83] to hold the feast immediately following the first full moon after the Equinox, <31>and after this not simply on whichever of the days, but immediately on the first day of the week[84] after the full moon.[85] <32>And as for the others of the stipulations, they are safely preserved even nowadays. <33>But the Sunday after the full moon is often postponed among us [by one week], inasmuch as two days[86] are added to the *Nomikon* Pascha[87] each year, and one comes upon the Sunday after them. <34>This happened not on account of ignorance or lack of experience of the Fathers[88] who instituted this particular law concerning the Pascha, but the causes of this are related to the course[89] of the moon.[90] <35>For because again the annual [solar] movement is completed in most closely in 365 [days] and a quarter of a day, as has been said,[91] <36>whereas the middle in terms of duration phases[92] of the moon are not completed in the entirety of 19 years (which are reckoned to include the addition of the quarter), but [the 19-year cycle is truncated] by three first sixtieths[93] of a day and thirty-seven seconds.[94] <37>On account of this, the said[95] completion is fulfilled in 304[96] years, and again not in their[97] entirety, but they[98] are truncated by zero[99] days, 57 first sixtieths[100] and 52 seconds,[101] that is to say very closely by one day. *[72]* <38>For precisely **(408)** this reason, currently two days[102] after the [astronomical] full moon are found to be added in the calculation of the *Nomikon* Pascha,[103] <39>[given that] the [astronomical] full moon is unable to catch up recently the particular date of the month that had been set by the Fathers[104] of old, since it[105] is truncated — as has been said —[106] very closely by one day in three hundred four years. <40>Such then is the anomaly[107] that [the passage of] time and the movements of the luminaries[108] has created concerning the day of Pascha.[109] <41>Yet, this does

NOTES:

26. See also §7.18, which is much more scientific, in contrast to the present section, which was evidently written for ordinary folk. Rhalles and Potles mention in a footnote that the header is found in Manuscript Γ (A.D. 1683). The header is missing in Migne's Greek and Latin texts.

27. Strahler, p. 58: "At equinox, the circle of illumination exactly divides all parallels of latitude into halves. This means that any point on the rotating earth except the poles will lie for 12 hours on the sunlit side of the globe and for 12 hours on the darkened side, hence the day and night are of equal length — 12 hours each — over the entire globe … [p. 59:] At the equator, the sun at equinox rises exactly in the east, follows a path perpendicular to the horizon plane, reaches zenith at noon, then descends to sunset at a point due west … [p. 60:]

not compromise[110] piety[111] in the very least, but rather it corroborates it greatly. <42>For because of it, the separation between the celebration of the *Nomikon* and that of our Pascha is manifested more clearly,[112] since intervening are not one day as back then, but at least three. <43>It is for this reason[113] anyway that the Fathers[114] moved the day forward to the Sunday.[115] <44>And[116] if the *Nomikon* Pascha happens [to fall] on a Sunday, they ordained to move it unto the following one, <45>so as we may be turned away from their[117] god-fighting and unfeastly feast,[118] and through a long interval to distinguish ours from theirs[119] in every way, seeking to [have us] lean toward the good side.[120] <46>{For if this were not [so], it[121] would disorderly — I believe — move so [much] forward as to coincide even with ours, occurring each year not always two days [before], [but sometimes within] more or [sometimes] fewer [days].}[122] <47>These [issues] will be demonstrated more extensively when we advance forward[123] [to the place] where not only the *Canonia* are presented,[124] <48>which interpret more exhaustively both the Equinox and the full moons, but also the variation in the *syzygies*[125] is shown clearly in particular years.[126]

The following rule applies to the equinox: The altitude of the noon sun on the equinox date is equal to the co-latitude, equivalent to 90° minus the latitude." Such precise astronomical definitions notwithstanding, it is an axiom of every computist that terms like Equinox, full moon, and Spring "are given definitions that differ from both their ordinary civil meanings and their astronomical meanings. Thus we shall have to define an 'ecclesiastical Equinox'. We shall also have to define a hypothetical 'ecclesiastical moon' whose motion differs from that of the real moon. The reader might then think that 'full moon' means the time when the ecclesiastical moon would be full if it were the real moon, but he would be too hopeful. 'Full moon' in this context means the 14th day of a certain Jewish lunar month. More precisely yet, it means the 14th day of what

that Jewish lunar month would be if it were governed by the Christian ecclesiastical moon and Equinox, and by Christian rather than Jewish rules." See Newton, R. R. (1972), *Medieval Chronicles and the Rotation of the Earth*, The Johns Hopkins University Press, Baltimore, MD, p. 15. The differences between the ecclesiastical definitions of vernal Equinox and full moon from their Jewish counterparts, prompts Newton (p. 37) to use the term "Christian Passover," so that the pertinent stipulation about Pascha could be understood as "Easter [should not] coincide with the Christian Passover."

28. See also §7.18.16. §7.2.1–13 is evidently extracted (and somewhat abbreviated) from §7.18.16–47.

29. At this point, Vlastares is repeating Ptolemy's statement: "We became convinced that these intervals [from solstice to solstice, etc.] do not vary, from the successive solstices and equinoxes which we ourselves have observed by means of our instruments." See *Almagest*, Book III, Ch. 1 (Toomer, G. J., *Ptolemy's Almagest*, Princeton University: 1998, Princeton, NJ, p. 132). Yet, the assertion concerning the "precise equality of the annual time interval" is disputed by modern astronomical measurements. The average length of the tropical year (i.e., from one vernal equinox to the next) is now considered to be 365.24219879 days, i.e., 365d, 5h, 48m and 45.975s (see Finegan, p. 17; Newton, p. 35). Yet, in 1988 the actual tropical year was 365.2421909 days, or 365d, 5h, 48m, 45.3s (see Pasachoff, p. 65), and in 2000 it was 365.2421874 days, or 365d, 5h, 48m, 45s (see Duncan, D. E., *Calendar — Humanity's Epic Struggle to Determine a True and Accurate Year*, Avon Books, Inc.: 1998, New York, NY, p. i). In 1900, it was about 365.242196d; in 2100, it will be about 365.242184d (see Tondering, C., 1999 (version 2.1), from http://www.tondering.dk/claus/calendar.html, accessed: 2/17/00, §1.0). O'Neil, W. M. (1978), *Time and Calendars*, Sydney University Press, Sydney, Australia, p. 22, provides an equation for the determination of the length of the tropical year in any given century, and mentions that this was "365.24231545 days *circa* A.D. 1."

30. The Romans tinkered repeatedly with the calendar. The best known case of this is, of course, the reform under Julius Caesar in 45 B.C., at the advice of his astronomer Sosigenes, which gave birth to what is generally known as the Julian Calendar. This introduced leap years (see Aveni, A.F. (1989), *Empires of Time — Calendars, Clocks, and Cultures*, Basic Books, Inc., New York, NY, p. 114), and added 80 days to 46 B.C. in order to compensate for accumulating errors, making that year 445 days long (see Duncan, p. i)!

31. Literally, forgive.

32. See also §7.18.18.

33. See also §§7.2.35; 7.5.3; 7.6.1; 7.17.31; 7.18.19. The length of the Julian year is set to 365.2500 days (or 365d, 6h), whereas the length of the Gregorian year is fixed at 365.2425 days (or 365d, 5h, 48m, 20s). See Duncan, p. i. As noted earlier, the average length of the tropical year is currently estimated as 365.2422 days, or 365d, 5h, 48m, 46s.

34. See also §7.18.20. According to Strahler, p. 58: "The vernal equinox occurs $05^h48^m46^s$ later each year for 3 years, bringing it from March 20 to March 21, after which the added day in leap years restores the equinox to March 20."

35. See also §7.18.22; cf. §7.5.17n. The discrepancy between the Julian year and the tropical year is actually closer to 1/128 (not 1/300) of a day: 365.25-365.24219879=0.0078013=1/128.18376. According to Aveni, pp. 109–118, the "excess" of the Julian year is 11m, 14s, i.e., 674s. A day is 86400s, and, therefore, 86400/674=128.18991 years, or "a little over a century." In comparison, the "excess" of the Gregorian year is 0.0003d or 25.92s, i.e., 1/3333.3 of a day, or "one day in 3300 years" (these estimates are affirmed by Tondering, §2.1.2, 2.2, and by Strahler, p. 20). In contrast, the proposal of the "Panorthodox" Congress of Constantinople in 1923 (5/10-6/8) would reduce the "excess" to "1 day in 44000 years," which is comparable to the natural change in the length of the tropical year itself, which occurs "because of gravitational disturbances the earth encounters from other bodies in the solar system." See Aveni, p. 118; cf. Newton, p. 20.

36. Rhalles and Potles point out in a footnote a variant in Manuscript 1340 (A.D. 1680) and book source ε (16^{th}? c.): "as we have also stated in other [works]." This hints to the existence of two independent works on the same issue, which were eventually combined into Chapter 7 *About the Holy Pascha*. See also §§7.18.22; 7.5.17.

37. See also §7.18.24.

38. Vlastares is again citing Ptolemy here: "We find that the solstices and equinoxes occur earlier than [one would expect from a year of 365] ¼ days by one day in approximately 300 years … We conclude that the return of the sun to the equinoctial points takes place earlier than it would for a [365] ¼-day year by approximately one day in 300 years." See *Almagest*, Book III, Ch. 1 (Toomer, pp. 137, 138). As noted above in §7.2.5n, Vlastares and Ptolemy underestimate the rate at which the Equinox occurs earlier each year at 1 day in 300 years, instead of 1 day in 128 years. This is the single most important deficiency in Vlastares' arguments regarding the computation of the date of Pascha, and leads him to a series of misguided assertions, notably those directed against Jewish practices.

39. Cf. 304 years for the delay in the ecclesiastical Paschal full moon, in §§7.2.37, 39; 7.10.5; 7.17.34, 35, 46; 7.18.53.

40. §7.2.5–9 repeats almost verbatim §7.18.22–25.

41. The three Equinox dates associated with Nabonassar (*c*. 747 B.C.), Philip the Arrhidaeus (*c*. 324 B.C.) and Christ (A.D. 31) in §7.2.10–12 are reproduced almost verbatim from Nicephorus Gregoras, *Byzantine History*, Oration 8, Chapter 13 (Niebuhr, p. 366). Gregoras, however, records the Equinox for "our own [age] now" (*c*. A.D. 1335) as March 17. See also §7.18.32–33, 45, 47. Gregoras may have calculated these dates himself, presumably with specific

years in mind (e.g., the beginning of the reign of the two kings) since the time of day is given in each case. He also claimed to have ascertained that the correction of 1/300 days to the length of the year suggested by Ptolemy was too small, and in this he was subsequently vindicated by the Gregorian reform of 1582, as well as by modern astronomical estimates reproduced in earlier footnotes. Using the software *VE.EXE* (Version 2.0, © 2000 Hermetic Systems, available at http://www.hermetic.ch/cal_sw/ve/ve.htm; accessed 2/27/03), the modern astronomical estimate for the Equinox in A.D. 1335 is found to be 3/13, while that for 1333 and 1337 it is 3/12. *VE.EXE* dates are based on *ephemeris* time, a.k.a. Terrestrial Dynamic Time, from which an estimate may be obtained of Greenwich Mean Time (GMT), a.k.a. Universal Time, by subtracting the (usually) small quantity known as Delta T. Similarly, for A.D. 31, the Equinox occurred on 3/23. The software allows calculations only to –100 (i.e., 101 B.C.). Ginzel, F.K. (1906), *Handbuch der Mathematischen und Technischen Chronologie*, Vol. 1, J.C. Heinrichs'sche Buchhandlung, Leipzig, Germany, p. 101, lists Equinox dates based on GMT for the years –4000 to +1600 (4001 B.C. to A.D. 1600) in increments of 100 years, including the following: in 801 B.C. on 3/28; in 701 B.C. on 3/27; in 401 B.C. on 3/25; in 301 B.C. on 3/24. By setting the Equinox for Nabonassar's age on 3/25, Vlastares is contradicting the traditional Roman Equinox date of 3/25, believed to have been pertinent to the year of the Julian reform (45 B.C.). *VE.EXE* calculates 3/23 as the Equinox date for 45 B.C. (see also Newton, p. 24).

42. See also §7.18.32. The personages referred to here echo Ptolemy, whose chronology began at midday, 1 Thoth of Year 1 of the reign King Nabonassar of Assyria and Babylonia, which lasted for 14 years. This Egyptian date marking the beginning of the "era of Nabonassar" corresponds to 26 Feb., 747 B.C. Ptolemy explains that he chose this as the beginning of his chronology because the earliest Babylonian observations available to him dated from this period (*Almagest*, Book III.7; see Toomer, p. 9; Taliaferro, R.C. (1990), "The Almagest," in *Great Books of the Western World*, Vol. 15, Second Ed., Encyclopaedia Brittanica, Inc., Chicago, IL, p. 467). I have not been able to locate a reference to a Spring Equinox in the era of Nabonassar in the *Almagest.* The earliest such observations cited by Ptolemy are ascribed to Hipparchus and refer to Mar. 24, 6 a.m., 146 B.C.; Mar. 23, noon, 145 B.C.; Mar. 23, 6 p.m., 144 B.C.; Mar. 23/4, midnight, 143 B.C.; Mar. 24, 6 a.m., 142 B.C.; and Mar. 23, noon, 141 B.C. (Toomer, p. 686). These dates are too early to be verified using *VE.EXE*, but Ginzel (p. 101) confirms that the Equinox in both 201 B.C. and in 101 B.C. was on 3/23.

43. See also §7.18.33. The "era of Philip" the Arrhidaeus was adopted by Ptolemy in his *Handy Tables* (*Πρόχειροι Κανόνες*), a revised and extended version of the astronomical tables in the *Almagest*, but it also occurs in the latter in Books III.1, 4, 7; V.5; X.9; XI.3 as "death of Alexander." In reconstructing

Ptolemy's king-list, Toomer (p. 21) identifies Philip (no. 32) as the first King of the Macedonians. He succeeded "Alexander the founder" [of Alexandria], i.e., Alexander the Great (no. 31), whose name Toomer inserts at the end of the list of Kings of the Persians! Philip reigned for 7 years, from Nov. 12, 324 B.C. to 431 years after the beginning of the era of Nabonassar, i.e., 316 B.C. (Toomer, p. 11; Taliafero, p. 466). According to Finegan, p. 102, Philip Arrhidaeus was "the half-witted, illegitimate son of Philip II, approved by the generals as king (323–316 B.C.), following the death of Alexander the Great." I have not been able to locate a reference to a Spring Equinox during the reign of Philip in the *Almagest*. I have not searched Ptolemy's *Handy Tables*, nor the considerably augmented Byzantine version thereof by Theon of Alexandria (*c.* 335–*c.* 405). Regarding the latter, see Tihon, A. (1999), "Theon of Alexandria and Ptolemy's *Handy Tables,*" in *Ancient Astronomy and Celestial Divination*, N.M. Swerdlow, Ed., The MIT Press, Cambridge, MA, pp. 337–369.

44. This probably means midnight March 23/24 (see §7.4.6n). According to Vlastares (§7.4.13), the Lord's passion occurred in A.D. 31. I have not been able to locate a reference to a Spring Equinox around the year of the Crucifixion in the *Almagest*. The Equinox obtained from *VE.EXE* for A.D. 31 is 3/23 at 07:09 (*ephemeris* time). Ptolemy records an observation for Mar. 22, 1 p.m., A.D. 140 (Toomer, p. 686). Using *VE.EXE*, this Equinox is found to be on 3/21 at 16:37, i.e., about 21 hours earlier. Newton (p. 26) notes that Ptolemy's average error was about 30 hours, compared to a "reasonable error" one might have expected in his time of "a few hours." Newton claims that the data provided by Ptolemy "were not observed at all but were fudged with the help of Hipparchus' tables"!

45. See §7.2.8.

46. See also §7.18.25, 47. Rhalles and Potles state in a footnote that the phrase beginning with "and in our own [age]..." does not appear in book source B (*Synodikon* by Beveregius, A.D. 1672). As discussed in more detail elsewhere, "our own age" is *c.* A.D. 1335, for which *VE.EXE* gives the Equinox as 3/13 at 03:43. Evidently, Ptolemy's algorithm (on which Gregoras and Vlastares presumably relied) produced a reasonably accurate estimate in the 1st c. A.D. but was off by 4 or 5 days by the 14th c. This lapse is accounted for by their assumption that the early onset of the astronomical Equinox amounts to 1 day in 300 years, as opposed to 1 day in 128 years.

47. Most of this paragraph (up to the discussion of the full moon, §7.2.14–31) appears to be out of place; its natural place seems to be in §7.3: *On Account of What is Pascha Celebrated After the Equinox?* See also §7.2.31n.

48. Vlastares is again reproducing Eusebius' *Ecclesiastical History* (7:32:16), who had cited the *Περὶ τοῦ Πάσχα Ἀνατολίου Κανόνες* (= Canons of Anatolius about the Pascha), in appealing to the witness of Jewish writers. In addition to Josephus and Philo, Anatolius also had referred to Musaeus, the two Agathobouli and Aristoboulos. See Boyle, p. 313; Roberts and Donaldson,

p. 147. St John Chrysostom also appeals to Philo and Josephus (see Migne, *PG* 59:748, as cited by Delempases, A.D. (1985), *Πάσχα Κυρίου* (=The Lord's Pascha), in Greek, G. Koukoudakes, Athens, Greece, p. 289). The pertinent work by Josephus (*c*. A.D. 37–*c*. 101) is identified by Pedersen, O. (1983), "The Ecclesiastical Calendar and the Life of the Church," in *Gregorian Reform of the Calendar*, Pontificia Academia Scientiarium, The Vatican, p. 19, who nonetheless denies the significance ascribed to it by Vlastares: "The decision to create such an 'embolismic' year of 13 lunar months … by intercalating an extra month about every third year … was taken by the authorities in Jerusalem on the basis of crude observations of, for instance, the state of vegetation which would show that spring was near at hand (cf. *Luke* 21, 30). There is no evidence that the vernal equinox played any role at all in this procedure. The statement by Josephus that the Greek month Xanthicus is the same as the Hebrew Nisan which is the first month of the year *when the sun is in Aries* [*Antiq. Jud.* III, 10, 5] provides information for his Hellenistic readers, but is not a principle of the Hebrew calendar." Yet, the *Encyclopaedia Judaica* (1971), Vol. 5 (C-Dh), Col. 48, The McMillan Company, Jerusalem, Israel, on "Calendar," states: "The main raison d'être of intercalation [was] to prevent the lunar Nisan 16 from occurring before the day of the *tekufah* of Nisan in the crucial 16th year in the 19-year cycle — on the presupposition that the *tekufah* of Nisan stands for the true, not the mean, vernal equinox." Interestingly, Finegan, p. 63, notes: "In his *Jewish Antiquities* and *Jewish War*, Josephus commonly uses Macedonian month names and from time to time adds their Jewish equivalents. In *Ant. 1.80-81* he … says that Xanthikos and Nisan are the same and are the first month of the year for divine worship and for ordinary affairs. Again in *Ant.* 3.248 he equates Xanthikos and Nisan and states that this month begins the year." *Antiquities of the Jews* by Josephus traces the history of the Jews from the beginning down to A.D. 66. His *Wars of the Jews* gives an account of the Jewish wars, concluding with the war of A.D. 66–70. Both works were written prior to A.D. 100. Cantalamessa, R. (1993), *Easter in the Early Church*, Liturgical Press, Collegeville, MN, p. 29, presents an excerpt from *Antiquities of the Jews* (2, 14, 6, 312–313), but this makes no reference to the Equinox.

49. In *de Vita Mosis* (On the Life of Moses), Book II, Section 222, ed. L. Cohn, *Philonis Alexandrini Opera Quae Supersunt*, Vol. 4, p. 252. Berlin: Reimer, 1902. This is included as a header in the Preface of the *Chronicon Paschale* (Migne, PG 92:69), where it is cited as *Opere de Mose*, Book 3: "Moses lists the beginning of the vernal Equinox as the first month within the annual periods … And during this month about the 14th day as the lunar cycle is due to become fully illumined the *diavateria* [=Passover] is celebrated, a popular feast, called in Chaldean Pascha." Philo lived from about 20 B.C. to about A.D. 50. Cantalamessa (pp. 28–29) presents two excerpts from other works by Philo, but neither refers to the Equinox.

50. There is a hint of a pun at this point, as Vlastares may be illustrating the contributions of these Jewish "luminaries" using astronomical language.

51. The Hebrew calendar followed today is the result of the calendrical reform attributed to Patriarch Hillel ha-Nasi II, *c*. A.D. 358. In the words of Landau, R., *Hebrew Calendar Science and Myths*, http://www.geocities.com/Athens/1584/ (accessed 4/12/03): "Should no Hebrew calendar reform take place over the next few millennia all of [the Jewish] holidays will have drifted out of their appropriate seasons and Pesach could theoretically be observed in winter." Newton (p. 36) notes: "The [Hebrew] year is too long by about 0.0046 days, making the equinox fall later than the correct value by about one day in 216 years … The equinox corresponding to this calendar is now too late by 7 or 8 days, and comes on the equivalent of about March 27 or 28." In contrast, based on data from the National Observatory of Athens, Greece, *Ὡρολόγιον τὸ Μέγα*, (= The Book of Hours), in Greek, Apostolike Diakonia tes Ekklesias tes Hellados, Athens, Greece (1993), p. 662, indicates that "on account of erroneous calculations and the imperfections of the lunar calendar, the Spring Equinox is currently located by the Jews on the 26th or 27th of March, i.e., six days later than ours (March 21 [New Style])." Yet in A.D. 2013, Nisan 15 (the first day of Passover) will occur on 3/26; it is unclear whether this is due to a reckoning error (the astronomical full moon will fall on 3/27), or because the Equinox is not essential in the Hebrew calculation. All dates quoted in this footnote are according to the common Gregorian calendar.

52. References to seasons apply to the northern hemisphere. Vlastares, of course, does not account for the fact that the seasons are reversed in the southern hemisphere, of whose existence he could not have known, but this does not undermine his conviction that the season of natural regeneration is central to Paschal symbolism. Philo makes the same argument (see *Chronicon Paschale*, PG 92:69): "during this [season following the beginning of the vernal Equinox] the cereal [literally, sown] plants, the needful food, come to fruition … For most needful are wheat and barley and as many other kinds of food, without which life cannot be sustained."

53. = the full moon.

54. Cf. St John Chrysostom (Migne, *PG* 59:748): "indiscriminately even before the Equinox" (as cited by Delempases, p. 391).

55. Vlastares reiterates here his emphasis on the significance of astronomical events with regard to the dating of Pascha, presumably not only for the Jews but also for the Christians.

56. Literally, unpreservingly.

57. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV. "If any bishop, presbyter, or deacon, shall celebrate the holy day of Easter before the vernal equinox, with the Jews, let him be deposed." "'The Apostolical Canons' may well

be to a great extent of Apostolic origin, committed to writing, some possibly by the Apostles themselves, others by their immediate successors, who heard them at their mouth; and these at some period not far removed from the date of the Nicene Council (a.d. 325), probably earlier than the Council of Antioch, were gathered together into a code which has since then been somewhat enlarged and modified. This is the view of the matter to which the general drift of the learned seems to be moving."

58. The phrase "with the Jews" is the crux of many arguments regarding the date of Pascha. For Vlastares, "with the Jews" generally means "on the same day as the Jews" (see also §§7.2.29; 7.4.10; 7.17.5; 7.18.60; 7.19.2). Here, the objection is directed against the *Protopaschites*, who sometimes celebrated Pascha on a Sunday prior to the ecclesiastical Equinox of 3/21, as Vlastares claims the Jews sometimes did. See Hefele, C. J. (1894), *A History of the Christian Councils*, Vol. 1, T. & T. Clark, Edinburgh, Scotland, p. 321. In general, it may also have been directed against the *Quartodecimans*, i.e., those who celebrated Pascha on the full moon, on whichever day of the week it might occur. The latter had been at the center of the well-known controversy in the 2nd c. A.D., but had become extinct by the end of the 9th c. See Chadwick, H. (1981), *The Early Church*, Penguin Books, New York, NY, p. 85. See also §7.2.34.

59. See Rhalles and Potles, Vol. 2, p. 10 for the Greek text of the Canon. See also §§7.2.20, 26, 28; 7.17.2; 7.18.60. As significant as "the 7th Canon of the divine Apostles" is to the discussion, it is strangely not included in the list of "divine decretals" cited and discussed in §§7.19–7.26, at the conclusion of Chapter 7 *About the Holy Pascha*.

60. In his commentary on the 7th Apostolic Canon, Ioannes Zonaras (d. 1161) offers a different opinion altogether, thereby giving rise to the so-called Zonaras' *proviso* for the dating of Pascha: "The entire command of this Canon is precisely this, that the Christians should celebrate the Pascha not with the Jews, that is not on the same day. For it is required that their feastless feast should occur first, and then the Pascha among us should be held." Evidently, Zonaras was unable to address the complexities of computing the date of the Equinox, which he essentially dismissed as unimportant, and considered that following the Jewish Passover was an effective way to ensure that Christians would celebrate Pascha after the beginning of Spring, as required by the 7th Apostolic Canon (see also §7.2.22n). It is notable that Vlastares does not appeal nor make any reference to Zonaras' *proviso*. For his part, canonist Theodore Valsamon (*c.* 1140–*c.* 1195) argues that the Equinox should be observed as an astronomical event, rather than be fixed to a particular date by convention. Unlike Vlastares and Zonaras, Valsamon considers that the Jews had been commanded to celebrate the Pascha *before* the Equinox. See Rhalles and Potles, Vol. 2, pp. 10–11. For a discussion of the dependence of Vlastares' *Syntagma* on earlier canonists, see Viscuso, pp. 4, 44–45.

61. The use of the personal pronoun "her" is explained in §7.3.4n.

62. = foundation, i.e., the age of the ecclesiastical moon at the start of the year. As explained in §7.10.1n, below, the age of the ecclesiastical moon used in the reckoning of Holy Pascha is actually three days less than the values of the *themelios* computed by Vlastares' algorithms and presented in *Canonion* B. The age of the ecclesiastical moon is the same on January 1 as on March 1 because of the number of intervening days between these two different dates, since in leap-years an extra day is added to the course of the moon, counterbalancing the 29th day of February. "Note that each year was [first] assumed to consist of exactly 365 days. The leap days were [then accommodated] after the lunations had been distributed … by inserting an extra leap day every four years into whichever lunation contained 24 February. This lunation would then contain 31 or 30 days in leap years (according to whether it ordinarily had 30 or 29 days)." See Richards, E. G. (1999), *Mapping Time — The Calendar and its History*, Oxford University Press, Oxford, England, pp. 355–356; see also §7.7.9. There is a one-to-one correspondence between the Lunar Cycle and the *Themelios* of the moon (see *Canonion* B, below), e.g., for Lunar Cycle, LC = 5, *Themelios*, TH = 28.

63. Consider, for example, A.D. 1337 (6845 MEC), for which Lunar Cycle, LC = 5, Solar Cycle, SC = 13, *Themelios* = 28. According to Goldstine, H. H. (1973), *New and Full Moons 1001 B.C. to A.D. 1651*, American Philosophical Society, Philadelphia, PA, p. 195, astronomical full moons occurred on 3/17 and 4/16 (Goldstine's dates are Julian and are based on Baghdad time); the latter date agrees with Vlastares' own Paschal astronomical full moon, given in *Canonion* A, but is two days before the ecclesiastical full moon (*Nomikon Faska*) of 4/18 (Friday), as predicted in *Canonion* B (thereby illustrating Vlastares' remarks about adding two days in the calculation of the *Nomikon* Pascha, §§7.2.33, 38; 7.13b.10; 7.17.24, 44). Adopting 3/21 as the ecclesiastical Equinox (even though he says the astronomical Equinox was 3/18), Vlastares computes Holy Pascha on Sunday 4/20, per *Canonion* B. In contrast, the software *HebCal* (Version 3.3, © 2002 D. Sandinoff and M.J. Radwin, available at http://www.hebcal.com/hebcal/; accessed 2/27/03), indicates that the first day of Passover (Nisan 15) for A.D. 1337 was 3/18, i.e., the day after the astronomical full moon of 3/17 (I have converted to Julian the Gregorian dates from *HebCal*, which are based on Jerusalem time). Vlastares, therefore, castigates the Jews for relying on a full moon prior to the ecclesiastical Equinox of 3/21 and even prior to his own astronomical Equinox of 3/18. Now, if Gregoras' estimate of the astronomical Equinox of 3/17 were correct, then the Jewish practice might have been justified, and this may have prompted Vlastares to revise his own estimate to 3/18! (See §§7.2.8, 13; 7.18.25, 47). What neither Vlastares nor Gregoras knew, of course, was that the true astronomical Equinox for A.D. 1337 was 3/12, as verified using *VE.EXE*. A similar situation arose in A.D. 1348, for which LC=16, SC=24, Nisan 15=3/15, astronomical full moons = 3/16 and 4/14,

Vlastares' Paschal astronomical full moon = 4/14, ecclesiastical Paschal full moon = 4/17 (Thursday), Holy Pascha = 4/20, and astronomical Equinox = 3/12; similarly, in 1318 (LC=5), 1310 (LC=16) and 1329 (LC=16). Clearly, the Jewish reckoning accounted (possibly unwittingly) for a more precise estimate of the astronomical Equinox than the Orthodox Christian computations, which led to Vlastares' misinformed accusations. It is for this reason that I suggested earlier (see §7.2.20n) that Zonaras' *proviso* that the Christian Pascha should follow the Jewish Passover was simply an empirical way of ensuring that Christians would not celebrate the Holy Pascha prior to the vernal Equinox, in accordance with the 7th Apostolic Canon. See also §7.4.16n.

64. = the Jews.

65. Alternatively, unscientifically.

66. This is the immediate, practical (one might say pastoral or even legal) issue that Vlastares intends to address by authoring this entire Chapter. The next sentence articulates the specific observation that created the Paschal controversy in Vlastares' day. Undoubtedly, Vlastares is referring to Jewish practices of his own age, not those of Jews at New Testament times. See also §7.17.26.

67. = the Jews.

68. Here Vlastares declares that when on account of an astronomical error the Jews observe the *Nomikon* Pascha on the wrong day, the Christians should have "no fear [of sin]" nor any reservation in not predicating their date of the Holy Pascha on the Jewish reckoning. Rather, Christians should adhere to the correct (i.e., the Christian) definition of the *Nomikon* Pascha, i.e., as the first ecclesiastical full moon after the ecclesiastical vernal Equinox of 3/21. Evidently, however, he does not object to retaining these ecclesiastical equivalents, even though he also finds them in error by 2 or 3 days. See also §7.2.33n.

69. The question who exactly "the divine Fathers" are that Vlastares is referring to is a significant one, since they ostensibly compiled the Paschal *Canonion* to be introduced later, in §7.16. Some conclusions will be extracted from his text, below. See also §§7.2.34, 39, 43; 7.16.1; 7.17.10, 14, 28, 35, 45; 7.18.46, 49; 7.26.2.

70. 7th Apostolic Canon. See also §§7.2.19, 28; 7.17.2; 7.18.60.

71. Rhalles and Potles remark in a footnote that Manuscript 1375 (A.D. 1541) adds: "as one ought to verify that this occurs during all nineteen lunar cycles."

72. = the Jews.

73. Rhalles and Potles indicate in a footnote that book source B (*Synodikon* by Beveregius, A.D. 1672) and Manuscript Γ (A.D. 1683) replace "should celebrate" by "celebrate."

74. = of March 21, which had been the date of the vernal Equinox "when these [issues] were investigated by the Fathers" (§7.17.14).

75. = the Christians.

76. = the Jews. The argument of a deliberate intent on the part of "the divine

Fathers" is certainly unproven, if not contrived: the author's theological fervor is probably overpowering his scientific objectivity at this point. Three footnotes by Rhalles and Potles point out variants in this section among sources, suggesting that it may have been altered by individual scribes.

77. = concelebration with the Jews, i.e., holding the feast of the Holy Pascha on the same day as the *Nomikon* Pascha (if the full moon is on a Sunday), or prior to the ecclesiastical Equinox of 3/21. See also §§7.2.19; 7.4.10; 7.17.5; 7.18.60; 7.19.2.

78. See also §7.19. Note that the first Canon of Antioch is related here to the 7th Apostolic Canon, not to a Nicaean decree on Pascha.

79. 7th Apostolic Canon. See also §§7.2.19, 20, 26; 7.17.2; 7.18.60.

80. = 7th Apostolic Canon.

81. See also §7.17.

82. A footnote by Rhalles and Potles indicates the presence of a header *That Four Are the Determinations of Our Pascha* at this point in Manuscript 1375 (A.D. 1541).

83. See also §7.17.3. Vlastares does not provide at this point any information on the provenance of the latter two "follow-up" stipulations, viz. those concerning celebration of the Holy Pascha after the full moon following the vernal Equinox and on a Sunday. Subsequently, at §§7.2.39 and 7.2.43, respectively, he also ascribes each of these rules to "the Fathers" responsible for compiling *Canonion* B. In subsequent footnotes, I present evidence to identify the origin of these stipulations more precisely.

84. = Sunday.

85. See also §§7.4.7–10; 7.17.4–7. At this point, the theme of the paragraph changes away from the Equinox, and a new header would seem called for, e.g., *On the Full Moon*. The insertion of a new header by the scribe of Manuscript 1375 (A.D. 1541) appears to be responding to the same sense of discontinuity in this uncharacteristically long paragraph (see §7.2.29n). The main theme of the preceding segment of the paragraph (i.e., the Equinox) is picked up again shortly before the section ends (§7.2.44).

86. See also §§7.2.38; 7.13b.10; 7.17.24, 7.17.44.

87. i.e., the astronomical full moon occurs two days before the prescribed ecclesiastical Paschal full moon. At this point, Vlastares clearly identifies and defines the *Nomikon* Pascha as being synonymous to the ecclesiastical Paschal full moon after the vernal Equinox. See also §7.2.24n.

88. See also §§7.2.26, 39, 43; 7.16.1; 7.17.10, 14, 28, 35, 45; 7.18.46, 49; 7.26.2. Vlastares' pious but unscientific defense notwithstanding, it is clear that along with Ptolemy, Gregoras and Vlastares, "the Fathers" were not aware of how much faster the Equinox was drifting, i.e., by 1 day in 128 years, rather than by 1 day in 300 years.

89. Gr. δρόμῳ.

90. It is noteworthy that Vlastares does not attribute the delay in celebrat-

ing Pascha to any anti-Jewish motives, but simply to an astronomical anomaly. Yet, following up his contrived suggestion of a deliberate intent on the part of "the divine Fathers," Vlastares is unable here to recognize the limitations of the astronomical calculations of Ptolemy, attributing the violation of their predictions to the irregularity of the movement of the celestial bodies they were intended to track. See also §§7.2.40; 7.3.18; 7.13b.10; 7.17.21, 29; 7.18.48.

91. See §7.2.3.

92. Literally, passages (Gr. πάροδοι); the succession of illumined portions of her disk, whose middles are the full moons (cf. Strahler, pp. 77–80). See also §7.17.32.

93. = minutes. Following Ptolemy, Vlastares employed the sexagesimal system according to which one day was divided into 60 first minutes, each of which was further subdivided into 60 second minutes. For greater precision, each second was subdivided into 60 thirds, and each third into 60 fourths! Toomer, p. 6, indicates that "this was taken over by the Greeks (one may guess by the Hellenistic astronomers) from the Babylonians as a convenient way of expressing fractions and (to a lesser extent) large numbers, and of performing calculations with them. It is the first place-value system in history."

94. A more detailed explanation of some of these figures is given in §7.5.8–17. See also §§7.10.4, 7.17.33. Vlastares does not prove this deficiency, and I have not been able to locate it explicitly in the *Almagest*. In modern time units, the deficiency of (3m, 37s) is equivalent to 3x24 = 72m, plus 37x24 = 888s = (14m, 48s), totaling (86m, 48s), or (1h, 26m, 48s), i.e., 1.4466667h or 0.06028 days. Thus, Dobrzycki, J. (1983), "Astronomical Aspects of the Calendar Reform," in *Gregorian Reform of the Calendar*, Pontificia Academia Scientiarium, The Vatican, p. 117: "In the Julian calendar 19 years equaled 6939.75 days, longer than the lunar Metonic cycle by 0.0616 days." This suggests that Vlastares did not invent this discrepancy himself, but he may have derived it as follows: assuming the length of the lunar month is 29d, 31m, 50s, 8t, 20f according to Ptolemy (Toomer, p. 176; see §§7.5.10n, 7.5.19n), then 235 lunar months total 6939d, 41m, 22s, 38t, 20f, compared to 6939d, 45m, which are accumulated over 19 solar Julian years of 365d, 15m, each. Therefore, the length of the 19-year cycle is longer than that of the 235 lunar months by 3m, 37s, 21t, 40f, which can be truncated as 3m, 37s, as stated by Vlastares. In modern time units, (3m, 37s, 21t, 40f) are equivalent to 86.94444m = 1.449074h = 0.060378 days.

95. See §7.2.36.

96. See also §§7.2.39; 7.10.5; 7.17.34, 35, 46; 7.18.53. Cf. 300 years for the delay of the Equinox, e.g., §7.2.8.

97. = the 304 years. According to Vlastares, the 19 solar year cycle is longer than the corresponding 235 lunar months by just under 90 modern minutes. Thus, the 19 solar years are "truncated," inasmuch as they are not "fulfilled" within the shorter period defined by the 235 lunar months.

98. = the 304 years. The meaning here is that the 304 years are longer than the corresponding moon phases (235x16=3760 lunar months) by almost one day.

99. The use of zero (Gr. οὐδέν, literally, not even one) by Vlastares is noteworthy. See also §7.17.34.

100. = minutes.

101. 304 years constitute 16 cycles of 19 years. Therefore, the deficiency noted of (3m, 37s) per 19-year cycle accumulates to (3m, 37s) x 16 = (57m, 52s) over 304 years. Thus, according to Vlastares (and Ptolemy), every 304 years the astronomical full moons will occur one day too early compared to the predicted ecclesiastical full moons. Recall that earlier, Vlastares had asserted that the astronomical Equinox will occur one day too early every 300 years compared to the ecclesiastical Equinox. The similarity between the numbers 304 and 300 years leads Vlastares to much confusion in subsequent sections.

102. See also §§7.2.33; 7.13b.10; 7.17.24, 7.17.44. According to data presented by Goldstine, for the 42 years between A.D. 1310 and 1351 (inclusive), the astronomical full moon occurred after the predicted ecclesiastical Paschal full moon (*Nomikon Faska* in *Canonion* B) as follows: by 1 day, in 14 years; by 2 days in 22 years; by 3 days in 6 years. Moreover, on two occasions (in A.D. 1326 and 1345, both of which have Lunar Cycle, LC =13), the ecclesiastical Paschal full moon of 3/21 actually corresponded to astronomical full moons of 3/19, which evidently occurred prior to the ecclesiastical Equinox of 3/21! For these years, Passover was on 3/20 and 3/19, respectively (per *HebCal*), while the Holy Pascha was on 3/23 and 3/27, respectively (per my calculations, verified from Parise, F., Editor (1982), *The Book of Calendars*, Facts on File, Inc., New York, NY, p. 326). Interestingly, in A.D. 2003 (about 670 years after Vlastares), four days "are found to be added" from the astronomical full moon of April 16 (Gregorian, or New Style, NS) to the ecclesiastical full moon of April 20 (NS). The latter corresponds to the Julian (or Old Style, OS) date of April 7, the date prescribed by *Canonion* B for a year with LC = 6. Consequently, since the Solar Cycle, SC = 7 for 2003, Pascha falls on April 14 (OS) or April 27 (NS). Note that if LC was changed from 6 to 9, the prediction of the Paschal full moon would be 4/4 OS Thurs (4/17 NS), with Holy Pascha on 4/7 OS or 4/20 N/S, thereby eliminating the discrepancy between Eastern and Western Christianity in that year. See also §7.10.10n.

103. = of the ecclesiastical Paschal full moon.

104. See also §§7.2.26, 34, 43; 7.16.1; 7.17.10, 14, 28, 35, 45; 7.18.46, 49; 7.26.2.

105. = the astronomical full moon. According to Vlastares, the astronomical full moon occurs before the ecclesiastical Paschal full moon (or is "truncated") by 1 day every 304 years. His argument is essentially that nature violates the conventional ecclesiastical definitions!

106. See §7.2.37.

107. Vlastares probably borrowed the term ἀνωμαλία (= irregularity, non-uniformity) from the *Almagest*; see Toomer, p. 21 for the various meanings of the term as used by Ptolemy. In comparison, Vlastares' use of the word is less scientific and much looser. See also §§7.2.34; 7.3.18; 7.13b.10; 7.17.21, 29; 7.18.48.

108. = of the sun and of the moon.

109. See also §§7.17.47; 7.18.48. It is implicit in Vlastares' detailed discussion of computistical calculations that the determination of the date of Pascha has an important scientific aspect, which justifies the fact that more than half of Chapter 7 *About the Holy Pascha* deals with astronomy.

110. In his use of the relatively rare verb λυμαίνεται (rendered as compromise, but also meaning offend, treat with indignity, outrage, maltreat, cause ruin to), Vlastares is probably echoing Nicephorus Gregoras (*Byzantine History*, 8th Oration, Chapter 13): "I shall not tarry clarifying this at this time. So, let it be according to what [Ptolemy] says. For it compromises [my] argument rather little to waste too much time on it." The Latin translation of these verses (given in the edition by Niebuhr, p. 367) is as follows: "*Sed tamen sit ita, ut ille dicit. Ea enim ratio in annuis non plurimis parum nostram disputationem impediet*."

111. See also §7.17.20. This is Vlastares' first criterion for calendrical reform, viz., that piety should not be compromised.

112. i.e., there is less danger to celebrate the Holy Pascha erroneously before the first astronomical full moon occurring after the vernal Equinox. Yet, the text is hinting also to an anti-Jewish remark to follow in §7.2.45.

113. = to separate the celebration of the Jewish Passover from that of the Holy Pascha. The contrived argument of a deliberate intent on the part of "the divine Fathers" continues here, where the argument is now extended to explain the celebration of the Holy Pascha on a Sunday, and a little later the postponement by one week of the celebration when the full moon occurs on a Sunday. To be sure, the "conventional wisdom" expressed here by Vlastares is evidently shared by a number of scholars; consider, for example, Jones, C. W. (1943), *Bedae Opera de Temporibus*, Mediaeval Academy of America, Cambridge, MA, pp. 8–9: "The observance of Easter as a Christian festival evolved naturally out of Passover. The first Christians were all Jews, and it was natural for them to associate the greatest event in the new religion with the greatest event of the old, especially since the association was historically justified … As Christianity spread to the gentiles [, however,] much of the festal spirit of Passover was lost, and anti-Semites naturally resented the unified observances. Unquestionably many, with [early Church historian] Socrates [*c.* 439], regarded such survival of pre-Christian feasts as unworthy of the new religion: 'The apostles had no thought of appointing festival days, but of promoting a life of blameless piety. And it seems to me that the feast of Easter has been introduced into the Church from some old usage, just as many other customs have been established.' With

the shift from Jewish Sabbath to the first day of the week as the weekly holy-day, it was natural for other festivals to change as well; and the growing emphasis on the Resurrection determined that Christians should establish an annual festival as well as a weekly one. Anti-Semites needed only to change their Pasch so that it always occurred on Sunday to insure the occurrence of Christian and Hebrew feasts on the same day but once in seven times." The argument, however, is unsatisfactory in several ways, and not just because it ignores the fact that according to the Hebrew calendar the occurrence of Passover is not randomly distributed among the days of the week over the years, since Passover can never occur on certain days of the week.

114. See also §§7.2.26, 34, 39; 7.16.1; 7.17.10, 14, 28, 35, 45; 7.18.46, 49; 7.26.2. The adoption of Sunday as the day for the Paschal celebration is much more ancient than the development of *Canonion* B, and dates back to *c*. A.D. 150 (before the *Quartodeciman* controversy); yet Vlastares does not distinguish between "the Fathers" responsible for each event. See Talley, T.J. (2000), "History and Eschatology in the Primitive Pascha," in *Between Memory and Hope: Readings on the Liturgical Year*, The Liturgical Press, Collegeville, MN, p. 107: "As to the time when this Catholic [i.e., the one eventually recognized as universal] solution was forged, we really have no definitive evidence, but Karl Holl [1927], followed more recently by Marcel Richard [1961], has presented a strong argument for seeing this development as a function of the establishment of the Gentile episcopate at Jerusalem around [A.D.] 135. It has been argued [by Talley] that it was not established at Rome before [A.D.] 165, but this need not mean that it had not occurred elsewhere at an earlier time. From whatever time, however, it would seem to be an adjustment of the historical-commemorative Pascha of the Quartodeciman type to the original eschatological expectation of the Christian people, and at the same time a settling of the eschatological expectation to a sense of linear history, of a Christian mission rooted in the *ephapax* of Calvary."

115. Without denying the existence of a regrettable anti-Semitic strain in Church history, it is simply unhistorical to ascribe to anti-semitism exclusively such cardinal developments as the evolution of Sunday worship and of the Paschal celebration. More recently, a number of scholars have suggested some more promising possibilities; for instance, Jungmann, J. A. (1959), *The Early Liturgy to the Time of Gregory the Great*, University of Notre Dame Press, Notre Dame, IN, pp. 20–21, states: "The Jewish Christians at first continued to observe the Sabbath with its law of rest and its meetings in the synagogue for Bible reading and prayer. But more important for them was the new commemorative day, the Sunday. The Sunday was not simply the weekly holiday postponed for one day; the Sunday was something quite distinctive, with an entire new meaning and an entirely new character, and therefore it soon received a new name … It was called the 'day of the Lord,' κυριακή … This new name is important, and

its importance consists fundamentally in the meaning attached to the word 'Lord' … By the designation 'Lord,' St. Paul as a rule means Christ … Through His resurrection, through His glorification, Christ became, in the word's fullest sense, the Lord, κύριος, the head of His Church. In this were revealed His divine power and His regal greatness … So κυριακή ήμέρα is the day of our Kyrios, our king, the day on which our 'Lord' celebrated His triumph, His resurrection. The 'Lord's day' is therefore a proud, imposing name, and a profession of faith." With regard to Easter, Jungmann (p. 25) adds: "Easter, like the Sunday, was already celebrated in the primitive Church. In the Sacred Scriptures of the New Testament, it is true, we find only vague traces of it: but in the second century it is considered everywhere, both in the East and in the West, as a feast derived from apostolic tradition … [, as] is also seen from the fact that the date of the Easter festival was fixed according to the Jewish calendar … The only question was whether, in fixing the date of Easter, the calendar of the Jews should be followed unconditionally, or whether here too a certain emancipation should take place." Evidently, then, the Jewish-ness of the feast of the Holy Pascha is a witness to its apostolic authenticity, not an aspect to be shed; its subsequent evolution was consistent with the prophetic symbolism of Old Testament types that had come to pass in the passion and resurrection of Christ. Talley (pp. 105–106) points out, in fact, that the early Church was rather reluctant in adopting an annual commemorative celebration, even after "the Pascha had its beginnings in the Quartodeciman form … [because] it would constitute a severe problem for the primitive Christian understanding of time, for it would draw this celebration of the resurrection away from the Sunday of its observance, away from the eschatological day, the Day of the Lord, and would re-situate the resurrection in the framework of an anniversary, an annual commemoration of an event in the historical past. Such a change would do serious violence to the theology of the resurrection itself, for the resurrection of Christ is the principle of the New Age and cannot be reduced to a past event … It was this conflict between the week and the year as the basic frame of liturgical experience that required the accommodation of the latter cycle to the former so that the annual observance would conclude on Sunday … The Catholic [i.e., the one eventually recognized as universal] solution was to keep the annual [Jewish-based] celebration, but to shift it so far as necessary in order to terminate the fast and celebrate the Eucharist always on a Sunday. It is for this reason that the texts speak so consistently of the 'ending of the paschal fasts,' and manifest relatively little concern with when the fast is begun or how long it lasts …"

116. At this point, the discussion of the full moon ends and the main theme of the paragraph (the Equinox) is resumed.

117. = the Jews'.

118. Here, Vlastares appears uncharacteristically anti-Jewish, and echoes the commentary of Zonaras on the 7th Apostolic Canon, cited earlier (see

§7.2.20n, and Rhalles and Potles, Vol. 2, p. 10). Yet, this sentence provides additional support to the assertion that for Vlastares, concelebration "with the Jews" means celebrating the Holy Pascha on the same day (Sunday) as the Jews had been commanded to sacrifice the Paschal lamb (14 Nisan). Similarly, Newton (p. 19) suggests that "in effect, the Council [of Nicaea] forbade Christians to rejoice [i.e., hold the feast of the Resurrection] on the Jewish day of sacrifice [i.e., on 14 Nisan]"! Yet, at least since the calendrical reform attributed to Hillel II (*c.* A.D. 358), such a concelebration could never happen anyway, because 14 Nisan never falls on a Sunday! The reason for this is to be found in the four *dehiyyot*, or postponement rules, applied in the Hebrew reckoning of the feast of Rosh Ha-Shanah, which is never allowed to occur on Wednesday, Friday or Sunday, but always must fall 163 days after Nisan 15. It is plausible that the Christian postponement was not for the purpose of avoiding Nisan 14, but aimed at retaining the Jewish tradition that its ritual of sacrifice was never kept on a Sunday.

119. = the Jews'. For their part, Daniélou, J. and Marrou, H. (1979), *The First Six Hundred Years*, Paulist Press, New York, NY, pp. 75–76 , speculate that the postponement was an example of "certain Jewish feasts [reappearing] with a Christian meaning": "The feast of the Sunday after the 14 Nisan … coincides with the feast of Weeks; the presence of the theme of the *aparche* in St Paul shows this. That day was a Sunday in the nearby priestly circles of Qumran, which suggests that the feast first developed in Christian circles stemming from Essenism. A final feature seems to confirm this: we know that, in this Essene calendar, on the vigil of the inaugural Sunday of the feast of Weeks the crossing of the Red Sea was celebrated. Now that event remains the essential theme of the christian Easter vigil, in the Ambrosian *Exultet* for example. It is this group which finally prevailed over that of the Quartodecimans."

120. The meaning of this idiomatic phrase is obscure. The expression is omitted in Migne's Latin translation. Most scholars identify the regulations concerning the Paschal fast as the practical explanation for the postponement. Thus, Pedersen (pp. 44–45) quotes Theophilus of Alexandria (385–412): "… if NISAN xiv [the full moon] is a Sunday it is absolutely necessary to postpone Easter Day another week. Otherwise the feast would begin with the breaking of the fast on the evening of NISAN xiii which … is against the Law." Jones (p. 30) adds that Theophilus objected to Nisan 14 on the grounds of having to fast on a Sunday, which would be tantamount to following "the custom of the Manichees," but also points out (p. 19) that "the full moon of Sunday actually rises Sunday night and that therefore the [Paschal] holiday has taken place before the [astronomical] event;" Jones suggests (p. 19) that "the clearest explanation [of the postponement], though late in point of time is that of Ceolfrid [d. 716] (Bede, *H.E.* V, 21)." The absurdity of a Sunday fast required by keeping Nisan 14 bewildered Epiphanius of Salamis (367–403) who asked: "How

can we mourn and fast on Sunday, when we hear [the Apostles] saying in the *Didascalia*, "He who afflicts his own soul on Sunday is under God's curse?" (*Panarion* 70.11.4). Interestingly, Hippolytus (A.D. 170–*c.* 236), and perhaps Anatolius (*c.* 270) required postponing Pascha by a week if the full moon occurred not only on Sunday but also on Saturday (Hefele, pp. 319-320; Pedersen, p. 37).

121. = the Jewish Passover.

122. A footnote in Rhalles and Potles indicates that this sentence is only encountered in book source ε (16th? c.). According to the Hebrew calendar ascribed to Hillel II (*c.* A.D. 358), the Hebrew day of Nisan 15, which marks the first day of the Jewish Passover (see §7.1.8n), occurs on the day of the astronomical full moon, or on the day before this, or on the day after this, or (very rarely, e.g., in 1929) two days after this. The concern raised here by the 16th? c. scribe responsible for the insert might be illustrated, for example, in reference to A.D. 1433. During that year, the astronomical full moon occurred on Saturday, 4/04 (per Goldstine), while the Hebrew 15 Nisan fell a day later, on Sunday 4/05 (per *HebCal*). Had the Orthodox adhered to the date of the astronomical full moon as indicating the *Nomikon* Pascha, then Holy Pascha would have been celebrated on Sunday 4/05, i.e., on the same night as the Jews observed the first day of Passover. As noted above (§7.2.44), Christians would postpone the Holy Pascha by a week if the full moon, and by definition also the (Christian) *Nomikon Faska*, fell on a Sunday. If the Jews reckoned this Sunday to be Hebrew Nisan 15, the Christian postponement would suffice to separate the two feasts. Presumably, Christians would simply ignore Hebrew Nisan 15 if it occurred prior to (Christian) *Nomikon Faska*, attributing it to a Jewish error. Yet, a problem would arise if the Hebrew 15 Nisan occurred after the Christian *Nomikon Faska*, and attributing this to a Jewish error would not suffice to eliminate the scandal created. Unable to understand or explain the apparent "fluctuations" in the Jewish reckoning, the Orthodox Christians observed that the accumulating error in their own computations was their major defense against the proscribed concelebration "with the Jews." Obviously, the "divine Fathers" never intended their *Canonion* interepreted in this fashion, but this was evidently lost in view of the widespread acceptance of the so-called Zonaras' *proviso*, which essentially predicated the Holy Pascha on Jewish reckoning once again, in contradiction to the discussions at Nicaea (as reported by the Emperor Constantine the Great).

123. This alludes to the presence of a second, pre-existing stand-alone document incorporated into Chapter 7 *About the Holy Pascha*.

124. See §7.16.

125. = conjunctions and oppositions of sun and moon, i.e., new moons and full moons, respectively. See also §7.17.40, 43; cf. *Almagest*, Book VI.1 (Toomer, p. 275). During a conjunction the moon and the sun are on the same side of the earth, whereas during an opposition the earth is located between them. The

conjunction gives rise to the new moon and marks the beginning of the lunar month, while the opposition creates the full moon, at the middle of the lunar month. Moreover, a solar eclipse occurs when the moon is in conjunction with the sun and casts its shadow upon the earth, whereas a lunar eclipse is observed when the sun and the moon are in opposition and the moon crosses the earth's shadow (Strahler, pp. 74–77).

126. See §7.17.

[*7.3*] *Τίνος ἕνεκα μετ᾽ ἰσημερίαν τὸ πάσχα γίνεται;*

<1>Ἀλλὰ γὰρ καλὸν ἂν εἴη σκοπῆσαι, καὶ τίνος ἕνεκεν μετ᾽ ἰσημερίαν ἐαρινὴν τὸ πάσχα τελεῖν προστετάγμεθα· <2>ὅτι τοι ἐκ τοῦ μὴ ὄντος εἰς τὸ εἶναι τὸν κόσμον παραγαγόντος τοῦ Θεοῦ, ἀπὸ τῆς πρώτης ἡμέρας ἄχρι καὶ τῆς ἑβδόμης ἀκριβὴς ὑπῆρχεν ἰσημερία, <3>μήτε τῆς ἡμέρας, μήτε μὴν τῆς νυκτὸς τὴν ἑτέραν, μηδὲ τὸ ἀκαριαῖον πλεονεκτούσης· <4>εἰ γὰρ καὶ ἡ τετάρτη τῶν ἡμερῶν, τῶν φωστήρων ηὔχει θεωμένη τὴν γένεσιν, ἀλλ᾽ οὐκ ἦν αὐτοῖς ἐπιτετραμμένον καὶ τὴν ἐναντίαν ἰέναι, ὥς γε δὴ τανῦν, τοῦ παντός· <5>ὁ μὲν γὰρ ἥλιος, τὸ πρῶτον ἰσημερινὸν εὐθὺς τμῆμα τοῦ ζωδιακοῦ ὑπελθών, ἐν τῇ πρώτῃ τοῦ κριοῦ ἵδρυτο μοίρᾳ· <6>ἡ δέ γε σελήνη, ἐν τῇ κατὰ διάμετρον τούτου χώρᾳ παραχρῆμα διΐστατο, τὸ φθινοπωρινὸν μέν, ἰσημερινὸν δὲ καὶ αὕτη, τὸν ζυγόν, διΐππεύουσα, <7>μηδὲ βραχὺ τοῦ ἡλίου προεκπηδῶσα, ὡς γοῦν πέφυκε τρέχειν τὴν τήμερον, οὐ γὰρ ἦν ἄλλως τὸ πλησιφαὲς ἀκριβῶς αὐτῇ περισώζεσθαι, <8>μηδὲν ἀτελὲς ἐξ ἀρχῆς τοῦ Θεοῦ πρὸς ἡμᾶς ὑποδεικνύντος πεποιηκέναι, <9>εἰ καὶ τὸ τετραμμένον πρὸς τὸν ἥλιον αὐτῆς ἅπαν μέρος, διόλου πεφωτισμένον τυγχάνον, τῷ διαφόρῳ τῆς κινήσεως ποικίλα τὰ τῶν φωτισμῶν ἡμῖν ὑποφαίνει σχήματα. <10>Ὁμαλῶς τοίνυν καὶ ἄμφω τὰ φῶτα, μᾶλλον δὲ ἀκινήτως ὁμοῦ τῷ παντὶ συγκινούμενα, τὸ τέλος οἱονεὶ τῆς τοῦ πάντος δημιουργίας ἀνέμενον. <11>Τῇ γε μὴν ἕκτῃ, χερσὶ Θεοῦ ὁ ἄνθρωπος πλάττεται, ἰσημερίας εἰσέτι καλὸν ἐπανθούσης, καὶ τῆς σελήνης τῷ δαψιλεῖ τῆς αἴγλης πρὸς τὸν ἥλιον ἱσταμένης ἐξ ἐφαμίλλου σχεδόν· <12>οὐ γὰρ ἦν εἰκός, ἢ τὸν πρῶτον ἄνθρωπον πρὸ τῆς ἰσημερίας πλασθῆναι, ἡνίκα σκότῳ τὰ πάντα ἐκρύπτετο, <13>ὃς διὰ τὴν πολλὴν πρὸς τὸ φῶς οἰκειότητα, καὶ τοῖς ἀπηλλοτριωμένοις τοῦ τῆς εὐσεβείας φωτός, φῶς κατὰ λόγον προσείρηται, <14>ἢ τοὺς φωστῆρας τοῦ προσήκοντος καθυφεῖναι κόσμον, νῦν πρῶτον δορυφοροῦντας τῷ βασιλέυειν τῆς κτίσεως μέλλοντι· <15>ἄλλως τε καὶ τοῦ χρόνου μέλλοντος δημιουργεῖσθαι, ἔδει τὴν ἡμέραν δήπου καὶ τὴν νύκτα ἄρτι παραγενομένας, ἐκ τῆς ἰσότητος ἄρξασθαι· <16>ἐπεὶ καὶ προτέρα κατὰ φύσιν αὕτη τῆς ἀνισότητος, ὡς αἱ ἕξεις τῶν στερήσεων, <17>τοῦ Θεοῦ ἡμᾶς ἐντεῦθεν διδάσκοντος τὸν τῆς ἰσότητος νόμον, ἐν ᾧ τὸ τῶν ἀρετῶν ἕστηκεν, ἐπίπροσθεν τιθέναι πάσης πλε-

[*7.3*] *On Account of What Is Pascha Celebrated After the Equinox?*[127]

<1>But it may be good to examine also on account of what we have been commanded[128] to celebrate the Pascha after the Spring Equinox. <2>The reason is surely because when God had brought forth the world from non-being into existence,[129] from the first[130] day even until the seventh,[131] there was precise equality of day and night, <3>neither the day nor indeed the night having an excess over the other even by an instant. <4>For even if the fourth[132] of the days boasted witnessing the creation of the luminaries,[133] yet it was not permitted to them,[134] as indeed [it is] nowadays, to send themselves hurrying along the celestial [path].[135] <5>For on one hand, as soon as the sun had crossed over the first equinoctial **(409)** segment of the zodiac, he established himself at the first sector of [the constellation of] Aries.[136] <6>For her part also, riding across the autumnal equinoctial [sector] herself, [which is the constellation of] the Libra,[137] the moon too forthwith stood opposite [the sun] aligned with his diametral region. <7>She did not jump ahead of the sun in the least, as indeed she is naturally found running today — for there would be indeed no other way for her to secure her own full illumination. <8>God was manifesting to us that from the beginning He has not created anything incomplete,[138] <9>even though every part of her that is turned away from the sun happened to be totally unenlightened, and by the distinctions in [her] movement [she] displays to us a variety of illumined configurations. <10>Therefore, both these lights were moving together without irregularity,[139] or rather [they were moving] motionlessly along with everything [else], as if they were waiting for the end of the creation of everything. <11>And in fact on the sixth [day],[140] man is created by the hand of God, even as the Equinox [is] still flowering beautifully, and while the moon [is] standing almost as an equal competitor toward the sun by virtue of the abundance of her brightness. <12>For it would not be reasonable either if the first man[141] were to be created before the Equinox, at which time everything was concealed by darkness, <13>[the first man] who on account of [his] great familiarity with the light would bring light by [his] reasoning mind even to *[73]* those who

ονεξίας καὶ ἀνισότητος· <18>εἶθ᾽ οὕτω τῶν φωστήρων μετὰ τὴν ἑβδόμην ἡμέραν, ὡς ἐξ ἀφετηρίας τρέχειν ὑπαρξαμένων, καὶ μὴ ἰσοταχῶς πεφυκότων κινεῖσθαι, τὴν ἀνωμαλίαν ἐπεισελθεῖν. <19>Ἐπεὶ γοῦν τὴν ἐξ ἁμαρτίας τοῦ ἀνθρώπου πτῶσιν εὐδόκησεν ὁ Κύριος ἐπανορθώσασθαι, προσῆκον ἦν ἐν τῇ τοῦ χρόνου ἰσημερινῇ ἀρχῇ, καθ᾽ ἣν ὁ ἄνθρωπος τὴν πρώτην ἔσχε πλάσιν, καὶ τὴν αὐτοῦ οἰκονομηθῆναι ἀνάπλασιν, <20>καὶ ὅτι, ἐπειδὴ τὸ φῶς ἔμελλεν αὔξειν τῆς εὐσεβείας, καὶ τὸ σκότος τῆς ἀσεβείας μειοῦσθαι, <21>μετ᾽ ἰσημερίαν τὸ σωτήριον πάσχα οὐκ ἔξω λόγου τελεῖται, ἡνίκα τὸ μὲν τῆς ἡμέρας φῶς ἐπιδίδωσι, τῆς νυκτὸς δὲ τὸ σκότος ἐλαττοῦται.

NOTES:

127. This section seems out of place. The header is missing in Migne's Greek and Latin texts.

128. This evidently refers to the 7th Apostolic Canon: see §§7.2.19; 7.18.15. Yet, the Old Testament symbolism may hint to a Mosaic command, as well. See also §7.4.8.

129. Gen 1:1–2:4.

130. = Sunday.

131. = Saturday.

132. = Wednesday.

133. Gen 1:14–19.

were estranged to the light of piety; <14>nor if the luminaries were to shine upon the emerging world [unequally], even as they now escorted for the first time the one [being] whose destiny it was to rule over the creation. <15>Moreover, as time[142] was about to be created as well, it was fitting I suppose that the day as well as the night should begin from [a point] of equality, since both had just been created. <16>For because this [equality] preceded inequality in nature — as also possessions [preceded] deprivations —[143] <17>God was teaching us through this that we should give priority before all greed and inequality to this the law of equality, upon which [the foundation] of the virtues rests. <18>It was subsequently, after the seventh day,[144] when the luminaries had commenced running as if from the starting place [of a race] and moving by nature at unequal speeds, [that] the anomaly[145] crept in. <19>At any rate, when the Lord was well pleased to rehabilitate the fall of man[146] [that resulted] from sin, it was also fitting that his recreation should be dispensed at the equinoctial beginning of time, during which man[147] received his first creation, as well.[148] <20>And also because the light of piety was destined to increase, and the darkness of impiety to decrease, <21>the salvific Pascha is — not unreasonably — **(410)** celebrated after the Equinox, at which time the light of day advances and the darkness of night is reduced.[149]

134. = the luminaries.

135. Literally, the [path that is] opposite to the entire world. The discussion of the relationship between the sun (Gr. ὁ ἥλιος, masculine) and the moon (Gr. ἡ σελήνη, feminine) sounds very much like a critique of "modern-day" evolving attitudes between men and women (and particularly between husbands and wives) in Vlastares' society. For this reason, as well as for clarity, I have retained the pronouns "he" and "his" for the sun, and "she" and "her" for the moon in the English translation.

136. = the Ram (Gr. Κριός). See also §§7.1.10; 7.18.14. Note that the use of the zodiac sign names in this context constitutes a definition, and does not

necessarily refer to astronomical events. Vlastares echoes here the definition adopted by Ptolemy (*Almagest*, Book II, Chapter 7; see Toomer, p. 90): "We shall use the names of the signs of the zodiac for the twelve [30°-] divisions of the ecliptic according to the system in which the divisions begin at the solsticial and equinoctial points. We call the first division, beginning at the spring equinox and going towards the rear with respect to the motion of the universe, 'Aries', the second 'Taurus', and so on for the rest, in the traditional order of the 12 signs." Thus, "the spring equinox defines 'Aries 0°', etc. This specification was necessary because other norms existed in antiquity, notably those where the spring equinox was at [Aries] 8° and [Aries] 10° (derived from Babylonian practice)" (see Toomer, p. 90, footnote 70). Newton (pp. 26–27) cautions that "one should not suppose that medieval writers dealt clearly with the equinox, perhaps because it meant different things to them in different contexts," and cites examples in works from various sources, including the Venerable Bede of Jarrow (A.D. 673?–735) of multiple equinox dates listed in a single year depending on which definition was adopted. From a purely astronomical perspective, Strahler (pp. 47–48) explains: "The constellations do not today coincide at all well with the divisions of the zodiac, but are displaced by about one month's time (30°), so that the vernal equinox, which marks the start of Aries in the zodiac (first point in Aries), occurs about one month before the sun actually enters the constellation of Aries. This discrepancy is easily explained by the precession of the equinoxes. Precession of 360° takes 26,000 years; therefore a precession of 30° would take about 2200 years. Whereas about the time of Hipparchus (180-110 B.C.) the signs of the zodiac corresponded closely with the place of the sun among the constellations, a westward shift of the entire ecliptic since then has displaced the stars relative to the zodiac divisions to the positions in which we find them today." Similarly, Zeilik (pp. 9–10) comments: "In 3000 B.C. the sun appeared in Taurus at the vernal equinox, the first day of spring. Today you see the sun in Pisces at the start of spring. In the passage of 5000 years the position of the vernal equinox has moved to the west out of Taurus, through Aries, and into Pisces. That is, in 5000 years it has moved through two constellations. So to circuit the whole zodiac will take six times as long, or about 6 x 5000 = 30,000 years. (A more precise calculation gives 25,780 years.) This slow westward drift of the equinoxes with respect to the stars is called the precession of the equinoxes. The precession of the equinoxes changes the zodiacal location of the sun at the equinoxes and solstices–its most dramatic effect. Precession results in another less obvious effect. The celestial poles move in the sky, so the north pole star changes. The north celestial pole now lies near the star Polaris. About 5000 years ago the north celestial pole was near the star Thuban (in Draco). About 12000 years from now precession will have carried the north celestial pole near to the bright star Vega in Lyra. Precession is hard to observe without a telescope because it takes place so slowly. But if a culture kept astronomical records for a

few centuries, its astronomers could notice the shift in the equinoxes and solstices with respect to rising stars." Cf. Strahler, pp. 37–38.

137. = the Scales (Gr. Ζυγός). See also §7.18.12.

138. Alternatively, imperfect. See also §7.7.5.

139. Literally, in an even line. Liddell, H. G. and Scott, R. (1883), *Oxford Greek Lexicon*, Oxford University Press, Oxford, England, identify this militaristic use of the adverb ὁμαλῶς (= uniformly) in the works of Thucidides (*c.* 460–*c.* 400 B.C.) and of Xenophon (*c.* 444–*c.* 357 B.C.). The term is etymologically related to ἀνωμαλία (non-uniformity, irregularity), used extensively in the *Almagest*. See also §§7.2.34, 40; 7.3.18; 7.13b.10; 7.17.21, 29; 7.18.48. Cf. §7.2.40n.

140. = Friday.

141. Gr. ἄνθρωπος: human being, inclusive term for both male and female.

142. Genesis does not indicate explicitly when time was created. It can be argued that its first phrase "In the beginning…" (Gen 1:1) already denotes the creation of time.

143. Here Vlastares provides the reader with a bit of philosophy to ponder on, demonstrating that he can be both innovative and imaginative in extracting theological connotations from the sages of ancient Greece.

144. = Saturday.

145. See also §§7.2.34, 40; 7.13b.10; 7.17.21, 29; 7.18.48.

146. Gr. ἄνθρωπος: human being, inclusive term for both male and female. The phrase "the fall of man" is not traditional to the Eastern Orthodox (who prefer "the exile of man"), and may suggest a Western influence even on Vlastares.

147. Gr. ἄνθρωπος: human being, inclusive term for both male and female.

148. Vlastares' views regarding the symbolism of creation and its connection to man's regeneration by Christ were widespread among the Byzantines and deserve further exploration as to their sources. This connection is already present in *De Pascha Computus* (Ch. 5), attributed to Pseudo-Cyprian (*c.* A.D. 243), see Ogg, G. (1955), *The Pseudo-Cyprianic De Pascha Computus Translated with Brief Annotations*, S.P.C.K., London, England, p. 4; and arguably in the Latin *The Paschal Canon of Anatolius* (Ch. 6–7, 11, 6th c.?), see Roberts and Donaldson, pp. 147–149. See also Georgios Monachos Syncellos (d. after 820), *Chronographiae* (Niebuhr, B. G., *Corpus Scriptorum Historiae Byzantinae*, Georgius Syncellus et Nicephorus CP, Vol. I, Bonnae, Prussia: 1829, pp. 1–4).

149. Here Vlastares is affirming his emphasis on the theological significance of the Equinox and its centrality in the Paschal date calculation.

[*7.4*] *Διατὶ οὐ γίνεται κύριον πάσχα κατ᾽ ἔτος.*

<1>Οὐκ ἀεὶ κύριον γίνεται πάσχα, διότι ἐπὶ τούτου χρὴ πολλὰ συνδραμεῖν· <2>οὐ μόνον γὰρ τὸ κατ᾽ ἔτος ἐπιζητούμενον τῆς σελήνης πλῆρες, ὅπερ ἡ τῶν ἡμερῶν τεσσαρεσκαιδεκάτη ταύτῃ χαρίζεται, τῇ ἰσημερίᾳ δεῖ συνελθεῖν, <3>ἀλλὰ καὶ τὴν ἕκτην τῶν ἡμερῶν, καὶ τὴν τοῦ Μαρτίου τρίτην καὶ εἰκοστήν, <4>ἅπερ καὶ ὅτε ὁ πρῶτος Ἀδὰμ ἐπλάττετο, καὶ ὅτε πρὸς τοῦ δευτέρου Ἀδὰμ αὐτὸς οὗτος ἀνεπλάττετο, συνημμένα ἦν· <5>ταῦτα δὲ σπανίως εἰώθει συμπίπτειν· <6>διὸ καὶ οἱ λεγόμενοι ἐμβόλιμοι μῆνες εἰσαγόμενοι, τὴν περὶ τὸν καιρὸν τοῦ πάσχα ποιοῦσιν ἀνωμαλίαν· <7>ἐπιζητοῦμεν γὰρ ἐπὶ τῷ σωτηρίῳ πάθει, προηγουμένως μέν, ὡς δεδήλωται, τὴν τῆς σελήνης ιδ′. μετ᾽ ἰσημερίαν εἶναι· <8>εἰ γὰρ μικρὸν γοῦν φθάσειε ταύτην, νόμος παρ᾽ ἡμῖν θεῖος, τὸν μὲν σεληνιακὸν ἐκεῖνον μῆνα παντάπασιν ἀθετεῖν, πρὸς δὲ τὴν ιδ′. τοῦ ἑξῆς ἀπαντᾷν· <9>ἔπειτα κυριακῇ τὸ πάσχα τελεῖν, <10>καὶ τοῖς Ἰουδαίοις μὴ συνεορτάζειν· <11>οὗ χάριν, καὶ εἴγε κυριακῇ τὸ Ἰουδαϊκὸν πάσχα συνέλθοι, εἰς τὴν ἑξῆς ἡμεῖς ὑπερτιθέμεθα τὸ ἡμέτερον, ἵτις καθαρὰ δήπου καὶ ἐλευθέρα τῆς τῶν Ἰουδαίων ἔσται τελετῆς. <12>Ἀνωμαλίας οὖν διὰ ταῦτα περὶ τὴν ἑορτὴν γινομένης τοῦ πάσχα, τῆς κυρίας τοῦ μηνὸς ἡμέρας ἐπὶ τὸ πλεῖστον διαμαρτάνομεν. <13>Ὁ γὰρ Κύριος τὸ σωτήριον ὑπῆλθε πάθος, ,εφλθ′. ἔτους ἐνισταμένου, τρίτον μὲν καὶ εἰκοστὸν τοῦ ἡλίου κύκλον διανύοντος, δέκατον δὲ τῆς σελήνης· <14>καὶ οἱ μὲν Ἰουδαῖοι περὶ τὸ Ἰουδαϊκὸν εἶχον πάσχα, τῇ τελευταίᾳ μὲν τῆς ἑβδομάδος ἡμέρᾳ, ὥς φασιν οἱ Εὐαγγελισταί, μεγάλην ἀποκαλοῦντες τὴν ἡμέραν ἐκείνην τοῦ σαββάτου, τετάρτῃ δὲ τοῦ Μαρτίου καὶ εἰκοστῇ· <15>τῆς δὲ ἐπιούσης κυριακῆς, ἥτις τῷ ἡλίῳ ἀφώρισται κατεξαίρετον, καὶ εἰς τὴν πέμπτην καὶ εἰκοστὴν ἀκολούθως τοῦ Μαρτίου ἐτέλει, ὁ νοητὸς τῆς δικαιοσύνης ἥλιος Χριστὸς ἐκ τοῦ τάφου ἀνέτειλεν. <16>Ἐπεὶ τοίνυν τὸ νομικόν, ὡς εἴρηται, πάσχα, ιδ′. τῆς σελήνης μετ᾽ ἰσημερίαν τελεῖται, ἀπὸ τῆς κα′. τοῦ Μαρτίου μέχρι τῆς ιη′. τοῦ Ἀπριλίου εἰωθὸς ἐμπίπτειν, <17>τὸ δὲ ἡμέτερον τῇ μετὰ τοῦτο κυριακῇ, <18>δημιουργὸς δὲ τῶν ἡμερῶν τε καὶ ἑβδομάδων ὁ ἥλιος, ἀμφοτέρων τῶν φώτων τοὺς κύκλους διαμετρούμενος, τὸ προκείμενον ἐκ τοῦ ῥᾴστου θηρῶμεν. <19>Κύκλοι τοίνυν ἐτέθησαν τῇ μὲν σελήνῃ ιθ′, ὀκτὼ δὲ καὶ εἴκοσι τῷ

[*7.4*] *Why the* Kyrion[150] *Pascha Does Not Happen Every Year.*[151]

<1>The *Kyrion* Pascha does not happen always because for this many [events] must concur. <2>For it is not only [that] the fullness of the moon, which is sought for every year and which the fourteenth [solar] day[152] [of the lunar month] itself presents, must concur with the Equinox, <3>but also that [this full moon must occur on] the sixth day,[153] and [on] the twenty-third[154] of March, <4>in exactly the same manner as [all] these were conjoined when both the first Adam was being created, and also when he was himself being recreated by the second Adam.[155] <5>These rarely it is the custom to coincide.[156] <6>For this reason also, when the so-called *embolismic*[157] months are inserted [into the lunisolar Hebrew calendar as adopted by the Church][158] they create an anomaly concerning the timing of the Pascha. <7>For we demand, as has been stated,[159] that at [the time of] the salvific passion, the 14th [day] of the moon after the Equinox should be prior.[160] <8>For if it[161] should precede it[162] even by a small [interval],[163] [there is] among us a divine law,[164] to set aside in every way that particular lunar month, and to meet the 14th [day] of the following [lunar month]; <9>to celebrate the [Holy] Pascha on the subsequent Sunday;[165] <10>and not to concelebrate with the Jews.[166] <11>For the sake of this [same law against concelebration with the Jews], even if the Jewish Pascha[167] should coincide with a Sunday, we postpone our own until the following [Sunday], which of course shall be clean[168] and free of the ceremony of the Jews. <12>Since for these [reasons] an anomaly[169] is created concerning the feast of Pascha, we most often miss the dominant day of the month.[170] <13>For the Lord underwent the salvific passion while the year 5539[171] was current, while the sun was traversing his twenty-third cycle,[172] and the moon her tenth.[173] <14>And the Jews had the Pascha according to Jewish [tradition] on the last day of the week,[174] as the Evangelists say, calling great that particular day of the Sabbath,[175] and also on the twenty-fourth[176] of March. <15>And when the Sunday had arrived, which was especially marked by the [rising of the] sun, and which occurred on the 25th of March following [that Sabbath], the intelligible sun of righteousness, Christ, shone

ἡλίῳ· <20>κἀκεῖνοι μὲν ἀπὸ τοῦ Ἰανουαρίου νόμῳ φύσεως ἄρχονται, ὥσπερ δὴ καὶ ὁ ταύτης θεμέλιος· <21>οἱ δέ γε τοῦ ἡλίου, τὴν ἀρχὴν τοῦ Ὀκτωβρίου ἔσχον ἀρχήν· <22>οὐδέτερον ἀλόγως οἶμαι, εἰ καὶ τὰς αἰτίας τούτων ἔργον διεξελθεῖν.

NOTES:

150. = Dominical, dominant, principal, major, majestic, significant, authoritative, supreme, fixed, ordained, appointed. *Kyrion* Pascha occurs when the Sunday of Pascha falls on March 25, i.e., when the feasts of the Annunciation and of the Resurrection (marking the beginning and the end, or the *alpha* and the *omega*, of Christ's life) coincide, as they did when Christ resurrected (according to Vlastares and many Byzantines) on Sunday, March 25, A.D. 31. Cf. *De Solsticia et Aequinoctia Conceptionis et Nativitatis Domini Nostri Iesu Christi et Iahannis Baptistae*, (4th c.), as cited by McCluskey, S.C. (1998), *Astronomies and Cultures in Early Medieval Europe,* Cambridge University Press, Cambridge, U.K., p. 26.

151. This section seems out of place. Although posed as a question, the punctuation in the header text by Rhalles and Potles includes a period, ".", rather than a Greek question mark, ";". The header is missing in Migne's Greek and Latin texts.

152. Vlastares presumably refers to a day spanning from midnight to midnight, as was traditional for "the Roman priests and the authorities who fixed the official day, and also the Egyptians and Hipparchus" (Pliny, *Natural History*, 2.79.188, as cited by Finegan, p. 7). The traditional computistical language that Vlastares employs here is not particularly precise and leaves room

forth from the sepulcher. <16>Because then the *[76] Nomikon* Pascha is celebrated,[177] as has been said, on the 14th [day] of the moon after the Equinox, it is customary that it should fall from the 21st of March until the 18th of April;[178] <17>and ours[179] on the **(411)** Sunday after it. <18>The sun is the creator of both the days and of the weeks, and determines [the duration] of the cycles of both lights, [which enables us to] seek in the easiest [way][180] after the prescribed [date]. <19>Now, 19 cycles have been assigned to the moon, and twenty eight to the sun. <20>And on one hand, those[181] start from January according to the law of nature, as indeed does her *themelios*, as well. <21>As for those of the sun, they had the beginning of October as [their] beginning. <22>Neither of these is unreasonable I think, even if examining their causes [is] a labor.

for much confusion. One might expect that "the fourteenth day [of the lunar month]" would be synonymous with Nisan 14 in the Hebrew calendar, but such an identity is unwarranted. According to the Hebrew calendar, Nisan 14 is a "lunar day," which spans from sunset to sunset, whereas calendars of nations accustomed to the "solar day" assume that "the fourteenth day of the moon" starts and ends at midnight (or among some at 1 A.M.). Moreover, the Jewish Passover meal is eaten in the evening marking the beginning of Hebrew Nisan 15, which is also referred to by Christians as the so-called "solar" Nisan 14! As noted above (see §7.1.8n), Christians refer to the sacrifice of the lambs on Nisan 14 as the Passover of the Law, whereas Jews call Nisan 15 the first day of Passover. A further complication arises from the fact that the dates for both nocturnal celebrations, viz., for the Jewish Passover meal and for the Christian Paschal eucharist, are reckoned with reference to different calendrical conventions, and each may exhibit (ideally!) a discrepancy of ±1 or 2 days compared to precise astronomical events. Consequently, interpretive clarifications, such as my insertion of [solar] in the translation at this point, are often imperative. See also §7.2.46n.

153. = Friday.

154. Cf. 7.4.13.

155. Vlastares' argument at this point is as follows: During Christ's passion, the full moon occurred on Friday, March 23, Nisan 14, A.D. 31, which was also the day of the astronomical vernal Equinox; similarly, during man's creation (also on a Friday), the full moon and the Equinox coincided as well. It can be verified (Fitch, H. (1938), *The Perfect Calendar for Every Year of the Christian Era*, Funk and Wagnalls, New York, NY, pp. 12, 18) that in A.D. 31, March 25 was indeed a Sunday. The astronomical vernal Equinox in A.D. 31 was on Friday, 3/23 (at 07:09 according to *VE.EXE*; at 03:00 GMT ± 2 hours according to the U.S. Naval Observatory, http://aa.usno.navy.mil/data/docs/SpringPhenom.html, accessed 5/21/2003). Accounting for Ptolemy's calculation error (see §7.2.12n), I infer that Vlastares is referring to midnight of March 23 to 24 (Holy Friday to Holy Saturday) when quoting the Equinox at the time of Christ's passion in §§7.2.12; 7.18.45. The coincidence of the Equinox and the full moon in A.D. 31 would add to the dramatic effect of the "darkness that fell upon the whole earth" following Christ's crucifixion (Mt 27:45), but in the context of Paschal computation it is rather problematic. To begin with, it ignores the ecclesiastical Equinox date of March 21; moreover, it leaves no time for the full moon to occur both after the Equinox but also on Friday, 3/23, as Vlastares maintains in §7.4.3. Modern estimates of the pertinent astronomical full moon for that year place it on Tuesday, March 27 (at 11:00 GMT ± 2 hours according to the U.S. Naval Observatory; at 14:01 Baghdad time according to Goldstine; at 20:29 Jerusalem time according to the *ASTROMEEUS* software, ©1991–1992 by Rick McMullan, http://www.astunit.com/software/astroprog.htm, accessed 5/29/2003); consequently, such estimates shed no light on the problem created by Vlastares' text. Furthermore, the Hebrew calendar dates were Monday, 3/26=Nisan 14 and Tuesday, 3/27=Nisan 15, understood to begin at sunset of the previous solar day (according to *HebCal*, assuming current computations applied to New Testament times).

156. According to *Canonion* B, *Kyrion Pascha* occurs when Solar Cycle, SC = 6, 17, 23, or 28 and Lunar Cycle, LC= 2, 10, 13, when the ecclesiastical Paschal full moon is on 3/22 (Thursday), 3/24 (Saturday) and 3/21 (Wednesday), respectively, i.e., in 12 out of 532 years, or once in just over 44 years. During the 13th and 14th centuries, *Kyrion* Pascha was celebrated in 1201, 1212, 1285, 1296, and 1380 (per my calculations, verified from Parise, pp. 325–326). Note that according to *Canonion* B, the ecclesiastical Paschal full moon (*Nomikon Faska*) never falls on Friday, 3/23, which contradicts Vlastares' assertion in §7.4.4. Evidently, his argument is somewhat contrived, in his effort to maintain the coincidence of Friday as the day of man's creation and of man's recreation (i.e., Christ's passion). Yet, even this assertion is called into question since that first Friday (at creation) had been ostensibly March 17 (see §7.7.3, and §7.8.11n), not March 23! Also note that the ecclesiastical Paschal full moon (*Nomikon Faska*), which is presumably marked by "the fourteenth [solar] day [of the lu-

nar month]," cannot be identified with Hebrew Nisan 14, since the traditional Eastern Orthodox assertion–which is shared by Vlastares in §7.4.14, and which Western scholars attribute exclusively to the Gospel of John–is that Holy Friday was Nisan 14 (the day on which the lambs and "the Lamb of God" were sacrificed) and that Holy Saturday was Nisan 15, the first day of the Jewish Passover, the first *seder* meal for which was eaten, on Holy Friday after sunset (cf. Jn 19:14, 31).

157. = intercalary. From the Greek ἐμβάλλω, "to throw in." When the intercalation takes place in the Hebrew calendar, a 30-day month called Adar I is added at the start of the common 29-day month Adar (II), which occurs just before the month of Nisan begins, thereby delaying the 14th day of the latter by a month. Following the calendrical reform ascribed to Patriarch Hillel ha-Nasi II (*c.* A.D. 358), this occurs during the Hebrew leap years, namely years 3, 6, 8, 11, 14, 17, 19 of the Hebrew 19-year cycle, the most recent of which started in 1997/98. Note that years in the 19-year cycle of the Hebrew era (HE) are assigned the same consecutive numbers as years in the 19-year cycle of the Mundane Era of Constantinople (MEC), assumed by Vlastares (see §7.4.13n). This is a consequence of the fact that at the time of Passover or of Holy Pascha, the years in both eras are divisible by 19 leaving the same remainder: e.g., 1335 corresponds to 6843 MEC, which divided by 19 yields 360, remainder 3; or to 5095 HE, which divided by 19 yields 268, remainder 3, as well. Thus, 1335 was the third year in the 19-year cycles of MEC and HE. See Landau: "A given Hebrew year is a leap year whenever its value divided by 19 leaves remainder that is either 0, 3, 6, 8, 11, 14, or 17. For example, the year 5757H (1996/1997) is a leap year because after division by 19 the remainder is 0. That by the way makes it the last year of the 303rd 19 year cycle." Nonetheless, the sequence of 29- and 30-day months differs in the Hebrew and the Church calendars (see Newton, pp. 30–32; Zwi Werblowsky, R. J. and Wigoder, G., Editors (1997), *The Oxford Dictionary of the Jewish Religion*, Oxford University Press, New York, NY, p. 145). Intercalary months were introduced into other calendars, as well, including the Greek (Athenian) and Macedonian calendars (Finegan, pp. 50, 52).

158. Theophilus of Alexandria (385–412) is credited with this reckoning, which he incorporated in a table of Paschal dates he sent to Byzantine Emperor Theodosius I (379–395). See Pedersen, p. 44; Newton, p. 30. It is not certain to what extent Vlastares recognized that the lunisolar calendar as adopted by the Church was not identical to its Hebrew counterpart.

159. See §§7.2.14, 19, 29.

160. At this point, Vlastares is repeating the traditional assertion that Holy Pascha should follow the first full moon after the Spring Equinox, and identifies the full moon with "the 14th [day] of the moon." As noted above, this date is called the *Nomikon* Pascha (or *Faska*, in *Canonion* B), but it cannot be identified with Hebrew Nisan 14, not only because this would contradict Vlastares'

data pertaining to the year of Christ's crucifixion, but more importantly because Nisan 14 does not always coincide with the date of the astronomical full moon (see §§7.4.5n, 7.2.46n).

161. = "the 14th [day] of the moon," i.e., the full moon.

162. = the Equinox. Literally, should the 14th [day] of the moon catch up with the Equinox.

163. = if the Equinox should occur after the full moon, even by a little. To be accurate with regard to the astronomical prototypes, one needs to define a reference meridian and to perform calculations demanding precision in some years within (modern) seconds. Consequently, the ecclesiastical equivalents for both these events are considered instead in traditional Paschal computations.

164. This evidently refers to the 7th Apostolic Canon: see §§7.2.19; 7.18.15. Yet, the use of "divine" may hint to a Mosaic command, as well. See also §7.3.1.

165. = the Sunday after the full moon after the ecclesiastical Equinox of March 21, which will be more than four weeks later. The maximum delay occurs when Lunar Cycle, LC = 5 and Solar Cycle, SC = 9, 15, 20, or 26, during which the Holy Pascha is on April 25, per *Canonion* B, or 35 days after 3/21. Holy Pascha was celebrated on 4/25 in 1204 and 1451, for example. See also §7.14.10.

166. This would be the case when an astronomical full moon occurs on 3/20 (as in A.D. 444), i.e., just prior to the ecclesiastical Equinox of 3/21, causing the Paschal full moon to be delayed until 4/18 (29 days later), as happens when the Lunar Cycle is 5, i.e., once every 19 years (cf. §7.2.21–22). For the "four stipulations," see also §§7.2.29–30; 7.17.4–7. The phrase "with the Jews" refers here most immediately to the stipulation concerning the celebration of Holy Pascha after the ecclesiastical Equinox of 3/21. See also §§7.2.19, 29; 7.17.5; 7.18.60; 7.19.2.

167. The loose use of the term "Jewish Pascha" at this point is as bewildering as it is common in discussions of the dating of Pascha, especially those imbibed with anti-semitic undertones. Clearly, what is meant here is the ecclesiastical full moon or its equivalent, the "*Nomikon* Pascha" or "*Faska*" (all three being Christian constructs), but none of these can be identified with Hebrew Nisan 14. In any case, the "Jewish Pascha" is Hebrew Nisan 15, as Vlastares acknowledges in §7.4.14, which he appropriately locates on Saturday, March 24 in A.D. 31.

168. Gr. καθαρά: this is an anti-Jewish remark, uncalled for by the scientific discussion at hand. It does ring, however, of the Eastern Orthodox cultural rituals on Καθαρὰ Δευτέρα ("Clean Monday"), i.e., the first day of the Great Fast of Pascha (Lent), during which homes are searched and cleaned of non-fasting foods. This, in turn, is reminiscent of the Jewish rituals on Nisan 13, as homes are searched and cleansed of *hametz*, or leavened foods. An old taboo appears to have traversed a complete circle!

169. Vlastares identifies the insertion of the *embolismic* months (see §7.4.6)

as the immediate cause of the anomaly, but it is unclear how the intercalation is related to the rarity of the *Kyrion* Pascha.

170. = 25th of March, the feast of the Annunciation, and according to one Byzantine reckoning, the date of the Resurrection (Sunday, March 25, A.D. 31).

171. = A.D. 31. Vlastares employs the so-called "Mundane Era of Constantinople" (MEC) in reckoning years, which began on September 1, 5509 B.C. at 01:00 (Newton, p. 517). To convert from MEC to the modern Christian Era (A.D.), subtract 5508 from the MEC year, if the month is January to August, inclusive, or subtract 5509 if the month is September to December, inclusive. In this translation, I have subtracted 5508 throughout, since the Holy Pascha occurs in the Spring. Thus, the year 5539 corresponds to A.D. 31, for which SC = 23, LC = 10, Paschal Full Moon = 3/24 (Saturday), and Holy Pascha = 3/25. To Vlastares, this must have appeared not only to fit the Biblical narratives and traditional beliefs about the events of Holy Week, but also to affirm the Byzantine reckoning of the date of Pascha (see *Canonion* B, below)! The traditional belief is that Christ was crucified at the age of 33, which points to a two-year discrepancy between the year of the birth of the Lord according to the MEC and the reckoning of A.D. according to Dionysius *Exiguus* (A.D. 526). For a lengthier discussion of the Byzantine calendar and its variants, see Newton, pp. 515–518. See also Delempases' objections to the common era numbering by Dionysius Exiguus, pp. 21–22.

172. According to the formula of §7.11, the Solar Cycle is obtained from the remainder of the division 5539/28 = 197, remainder 23.

173. According to the formula of §7.9, the Lunar Cycle is obtained from the remainder of the division 5539/19 = 291, remainder 10.

174. = Saturday. According to "Jewish [tradition]," this means that Saturday, March 24 was Nisan 15 (not Nisan 14!), on which the first day of the Jewish Passover, a.k.a. the first day of the feast of the unleavened or *azymes*, was celebrated.

175. Jn 19:31. According to the traditional interpretation of the Gospel of John, "that particular day of the Sabbath" was the Hebrew Nisan 15, which had started shortly after the Crucifixion, at sunset of the preceding "Day of Preparation" or Friday, and lasted through sunset on Holy Saturday. From reading Vlastares and the *Chronicon Paschale*, Delempases extracts an additional symmetric symbolism of the events of Holy Week, as follows: From the entry of Jesus into Jerusalem on Monday 3/19 (Nisan 10, when the Paschal lamb was brought into the home for the slaughter) to the ecclesiastical Equinox of Wednesday 3/21 (Nisan 12), three days; from the ecclesiastical Equinox of Wednesday 3/21 (Nisan 12) to the Passion on Friday 3/23 (Nisan 14, when the Paschal lamb was sacrificed), three days; and, of course, from Passion on Friday 3/23 (Nisan 14) to the Resurrection on Sunday 3/25 (Nisan 16), three days. This symbolism remains intact despite the disagreement in the year reckoned for the

Passion per Vlastares (5539 MEC) and per the *Chronicon Paschale* (5540 MEC). As already noted, the astronomical full moon for A.D. 31 is given by Goldstine as Tuesday 3/27, while the astronomical Spring Equinox from *VE.EXE* fell on Friday 3/23.

176. Cf. 7.4.3.

177. = the full moon occurs.

178. These are the traditional Eastern ecclesiastical limits for the Paschal Full Moon, which Vlastares preserves even though he states that in his days (*c.* A.D. 1335), the astronomical Spring Equinox occurred around the 18th of March, not the 21st (see §§7.2.8, 13; 7.18.25, 47), and that his *themelios* values include an adjustment by adding three days. Consequently, even if Vlastares' reckoning of the astronomical Equinox on 3/18 were adopted by the Jews, a full moon occurring between March 18 and 20 (inclusive) would be accepted by the Jews but ignored by the Christians (cf. §7.2.22; also note the confusion as to the full moon of A.D. 1334 in *Canonion* A). See §7.2.22n for a possible explanation of this different Jewish practice.

179. = the Holy Pascha. The contrast between the *Nomikon* Pascha and "ours" makes it ever so tempting to identify the former with the Jewish Passover. Yet, it was indicated clearly in previous footnotes (§§7.4.5n, 7n, 11n) that such association is not only unwarranted but simply erroneous and contradictory to Vlastares' text.

180. In his use of the relatively rare expression ἐκ τοῦ ῥάστου, Vlastares is probably echoing Nicephorus Gregoras (*Byzantine History*, Oration 8, Chapter 13): "For there were many on that occasion who provided many arguments against me, being unable to comprehend in the easiest [way] the purpose of my speech [concerning the issue of the Pascha]" (my translation). The Latin translation of this verse (given in the edition by Niebuhr, p. 365) is as follows: "*Erant enim qui eius disputationis finem non facile animo concipientes multum mihi negotii facesserent*."

181. =the former, i.e., the cycles of the moon. In the Hebrew calendar, the solar cycle starts on "Birkat Ha'chamah, the day of special blessing over the sun. This day comes only once every twenty-eight years, when the sun completes its grand cycle through the heavens (as viewed from Earth) and returns to its original position at the time of creation. The last time it came was in spring 1981; by the time it comes around again, those of us alive will have passed the year 2000" (Greenberg, B., "Jewish Rhythm," in Tillem, I. L. (1984), *The Jewish Directory and Almanac*, Pacific Press, New York, NY, p. 404). The numbering of years in the 28-year solar cycle of the Hebrew Era (HE) is different from the corresponding cycle of the Mundane Era of Constantinople (MEC), employed by Vlastares. Thus, whereas A.D. 1981 was 5741 HE (which divided by 28 gives 205, remainder 1), it was 7489 MEC (which divided by 28 gives 267, remainder 13), i.e., the Solar Cycle, SC, was 1 per HE and 13 per MEC. In contrast, in both

eras, the Lunar Cycle, LC, was 3 (as indicated by the remainder of the stated years by 19). See §7.4.6n.

[*7.5*] *Διατὶ ιθ΄ τῆς σελήνης εἰσὶ κύκλοι;*

<1>Μέχρι μὲν οὖν τῶν ιθ′. οἱ τῆς σελήνης ἀναβιβάζονται κύκλοι· <2>διὰ τοῦτον τὸν τρόπον ὁ σεληνιακὸς μὴν τέως, κατὰ τὸ πρόχειρον, δι᾽ ἡμερῶν γίνεται κθ′. καὶ ἡμισείας· <3>ταύτῃ τοι καὶ κατ᾽ ἐνιαυτὸν οἱ τῆς σελήνης ιβ′. μῆνες, εἰς ἡμέρας ποσοῦνται τνδ′, ἐνδεουσῶν πρὸς τὰς τξε′. καὶ τοῦ τεταρτημορίου τῆς ἡμέρας, ἃς ὁ ἥλιος κατ᾽ ἐνιαυτὸν ποιεῖται, ἡμερῶν ια′. καὶ τετάρτου· <4>ἐννεακαιδεκάκις δὲ τῇ ἡλιακῇ κινήσει γινόμενος ὁ ἐνιαυτός, καὶ ποιῶν ἡμέρας ,ςϡλθ′. πρὸς τῷ ἡμίσει καὶ τετάρτῳ, <5>τοὺς μὲν ιβ′. σεληνιακοὺς μῆνας εἰς σκη′. περιΐστησιν ἐν ἡμέραις ,ςψκς′, τὰς δὲ εἰρημένας περιττὰς ἡμέρας, ἤτοι τὰς ια′. καὶ τὸ δ′. εἰς ἑτέρους σεληνιακοὺς μῆνας ἑπτά, ἔχοντας ἡμέρας σς′. καὶ ἡμίσειαν· <6>ἔτι δὲ εὑρίσκονται περιττεύουσαι ἡμέραι ζ′. καὶ τέταρτον· <7>ἀλλὰ καὶ αὗται τῇ τοῦ κύκλου τῆς ἐννεακαιδεκαετηρίδος ὁλότητι συνυπάγονται, ὡς δειχθήσεται. <8>Ἐπεὶ γάρ, κατὰ τὸν Πτολεμαῖον, οὐχὶ κθ′. ἡμερῶν καὶ λ′. πρώτων λεπτῶν μόνον, ἤτοι ἡμισείας ἡμέρας, ὁ σεληνιακὸς γίνεται μήν, <9>ἀλλὰ καὶ ἑτέρου λεπτοῦ ἑνὸς ἡμίσεως καὶ τρίτου, ἤγουν ἑνὸς πρώτου καὶ ν′. δευτέρων· <10>καὶ τοῦτο ἀποδείκνυσι διὰ τῶν γινομένων ὅλων μηνῶν ἀπὸ ἐκλείψεως εἰς ἔκλειψιν· <11>ταῦτα, τὸ ἕν, λέγω, λεπτόν, καὶ τὸ ἥμισυ, καὶ τὸ τρίτον, ἐν ταῖς εἰρημέναις σλε′. τῆς σελήνης περιόδοις ἀναβιβαζόμενα, <12>ποιοῦσι λεπτὰ πρῶτα υλ′, καὶ δεύτερα ν′, ἅπερ ἅπαντα ἐπὶ τὰ ἑξήκοντα μεριζόμενα, τὰ μὲν υκ′. ποιοῦσιν ἡμέρας ἑπτά· <13>τὰ δὲ ὑπολειπόμενα πρῶτα δέκα, καὶ πεντήκοντα δεύτερα, οὐ δύνανται τέταρτον ἡμέρας ποιῆσαι· <14>λείπουσι γὰρ λεπτὰ πρῶτα τέσσαρα, καὶ δεύτερα δέκα· <15>καὶ τοῦτο κατὰ λόγον, διὰ τὸ ἐνδεῖν ἑκάστῃ ἐννεακαιδεκαετηρίδι, ὡς ἀποδέδεικται τῷ Πτολεμαίῳ, λεπτῶν πρώτων τριῶν καὶ δευτέρων λζ′. <16>εἰ δὲ καὶ ἔτι λείπουσι λεπτὸν πρῶτον ἕν, καὶ κζ′. δεύτερα, οὐκ ἔξω λόγου καὶ τοῦτο, <17>διότι οὐχὶ τέταρτον ἡμέρας ὁλόκληρον συναπαρτίζει τὸν ἐνιαύσιον κύκλον, ἀλλὰ παρὰ τριακοστὸν ἡμέρας, ὡς ἐν ἄλλοις εἰρήκαμεν. <18>Καὶ οὕτω μὲν ὁ σεληνιακὸς κύκλος ἐξ ἀνάγκης ἐν μόνοις γνωρίζεται ιθ′. ἔτεσιν, ὡς καὶ τοῦ περιττεύοντος τῶν κατ᾽ ἔτος σεληνιακῶν περιόδων, διὰ δεκαεννέα μόνων ἐτῶν εἰς τὰς τοιαύτας ἐντελεῖς περιόδους ἀναβιβαζομένου, <19>καὶ πάσας τὰς εἰρημένας

[*7.5*] *Why are the Cycles of the Moon Nineteen?*[182]

<1>Now then, the cycles of the moon are incremented up to [the number] of 19.[183] <2>The reason for this is that the lunar month is completed roughly speaking in [a period] of 29 days and a half. <3>Thus to be sure also, during [the course of] the annual [cycle], the 12 months of the moon sum up to 354 days,[184] which are lacking [compared] to the 365 [days] and the one quarter of a day, which the sun gives rise to [during] every annual [cycle], by 11 days and [one] quarter.[185] <4>And when the annual [cycle defined] through the movement of the sun, is completed nineteen times and it makes 6939 days plus one half and one quarter,[186] <5>it encompasses the 12 lunar months [compounded] into 228 [lunar months],[187] [in] 6726 [days],[188] plus also the aforementioned superfluous days — that is, the 11 and the quarter — [which are comprised] into another seven lunar months, having 206 days and a half.[189] <6>And still there are found superfluous 7 days and a quarter.[190] <7>But even these are incorporated into the entirety of the nineteen year cycle, as shall be demonstrated. <8>For because, according to Ptolemy,[191] not only in 29 days and 30 first minutes, that is of a half day, is the lunar month completed, <9>but also in another minute and a half and a third,[192] that is in one first [minute] and **(412)** 50 seconds. <10>And this he proves through the total [number of] months that are completed from eclipse to eclipse.[193] <11>These — I am referring to the one minute and the half and the one-third — compounded over the said 235 circuits[194] of the moon, <12>make 430 first minutes and 50 seconds,[195] which altogether divided by sixty, the 420 make seven days. <13>The remaining 10 first and 50 seconds are not able to make one quarter of a day.[196] <14>For they[197] lack four first minutes and ten seconds. <15>And this is reasonable because within each nineteen year cycle [the 235 lunar months are] deficient, as proven by Ptolemy, by three first minutes and 37 seconds.[198] <16>And even if they are still lacking one first minute and 27 seconds,[199] this is not unreasonable either, <17>because the annual cycle does not constitute one complete quarter of a day, but [is short] by a one three-hundredth[200] of a day, as we have said elsewhere.[201] <18>And in this manner by ne-

σλε′. ποιοῦντος πάντη ἀνελλιπεῖς, καὶ μηδέν τι λοιπὸν ἐχούσας περιττόν, ὥσπερ ἦν τῷ κύκλῳ τούτῳ σκοπός· <20>ἐκάλεσαν δὲ τὸν χρόνον τοῦτον περιοδικόν, ὡς εἰς μίαν ἀποκατάστασιν ἄγοντα τὰς διαφορὰς τῶν κινήσεων τῶν φώτων ἀμφοῖν.

NOTES:

182. In Migne, the Greek question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

183. According to a footnote by Rhalles and Potles, a variant of this opening sentence occurs in Manuscript "1240" (*sic*; Manuscript 1340, A.D. 1680): "Now, 19 cycles have been assigned to the moon for her part."

184. 12x29.5 = 354.

185. 365.25-354 = 11.25.

186. 365.25x19 = 6939.75.

187. 19x12 = 228. Migne, *PG* 145:75 (Latin version only) has 328, erroneously.

188. 29.5x228 = 6726.

189. 11.25x19 = 213.75; 29.5x7 = 206.5.

190. 213.75-206.5 = 7.25.

191. In the *Almagest* (Book IV.2), Ptolemy ascribes this determination to Hipparchus, who found "the mean length of the [synodic] month as approximately 29;31,50,8,20 days" (Toomer, p. 176). The same information is repeated in Book IV.3 (Toomer, p. 179), Book VI.2 (Toomer, p. 277), and possibly elsewhere. I have not located the truncated length of 29;31,50 days, referred to here by Vlastares, explicitly in the *Almagest*. Vlastares' figure corresponds to 29.5305556 days; adding 8 thirds makes this 29.5305926 days; and adding 20 fourths results in 29.5305941 days.

cessity, the lunar cycle is uniquely recognized [as consisting] of 19 years, since only over nineteen[202] years [does such a cycle] increment even the [amount] that overflows from the lunar circuits[203] [occurring] during [each] year into such completed[204] circuits,[205] <19>and makes in every way all of the said 235 [lunar periods] complete[206] *[77]* and having therefore nothing whatsoever left over as superfluous, as was indeed the purpose of this particular cycle.[207] <20>And they called this time [the] periodic,[208] since it leads to a unique recapitulation the differences in the movements of both these lights.[209]

192. 29d, 31m, 50s = 29.5305556d. See also §7.13.3. Modern astronomical estimates indicate that the average length of a synodic month is 29.5305889 days (Tondering, §1.0; Aveni, p. 113; Pedersen, p. 17; Finegan, p. 27; Newton, p. 35), or 29d, 12h, 44m, 2.9s (Duncan, p. i, Strahler, p. 73). The length of a synodic month in 1900 was 29.5305886d, and in 2100 it will be 29.5305891d (Tondering, §1.0). Ptolemy's synodic month is just under half a modern second longer than the average astronomical estimate; his precision here is significantly better than his accuracy with regard to the length of the tropical year.

193. In the aforementioned ascription to Hipparchus (*Almagest*, Book IV.2), Ptolemy states: "From the observations [made by the Chaldeans and in his time] [Hipparchus] set out he shows that the smallest constant interval defining an ecliptic period in which the number of months and the amount of [lunar] motion is always the same, is 126007 days plus 1 equinoctial hour. In this interval he finds comprised 4267 months … (Hence, dividing the above number of days by the 4267 months, he finds the mean length of the [synodic] month as approximately 29;31,50,8,20 days)." (Toomer, pp. 175–176). Newton, R. R. (1977), *The Crime of Claudius Ptolemy*, The Johns Hopkins University Press, Baltimore, MD, p. 110, indicates that the observations are indeed according to Hipparchus, but the mean length of the synodic month obtained from them should be 29;31,50,8,9 days, "as many writers have pointed out … Thus the

length of month that Ptolemy uses in his lunar theory has a Babylonian origin and cannot be due to Hipparchus as he claims."

194. = months; literally, periods (Gr. περιόδοις). 12x19+7 = 235.

195. 235 x (1m, 50s) = 25850s = (430m, 50s).

196. = 15 first minutes.

197. = the remaining 10 first and 50 seconds; but also, the said 235 circuits of the moon. The calculation is as follows: 235 lunar months x (29;31,50 days) = 6939d, 40m, 50s. Now, 19 solar years x 365.25 days = 6939d, 45m. Thus, the 235 lunar months "lack" (4m, 10s), compared to the 19 solar years. This is a less precise calculation than the one presented in §§7.2.36; 7.5.15; 7.10.4; and 7.17.33. The latter had employed 29;31,50,8,20 days for the length of the lunar month, and had led to a corresponding deficiency of the 235 lunar months of (3m, 37s, 21t, 40f), which Vlastares then truncated to (3m, 37s).

198. See also §§7.2.36, 7.10.4, 7.17.33.

199. The Greek text in Migne reads 20 (κ) seconds, but the Latin has 27 seconds, as does the Greek version of Rhalles and Potles (κζ). The meaning of the subtraction implicit in this sentence is obscure. If the difference is sought between (4m, 10s) and (3m, 37s), the result should be (0m, 33s), not (1m, 27s) as stated in the text. It would seem more reasonable to subtract the accumulated overestimate of the solar year over the 19-year cycle, i.e., 19 x 1/300 = 0.0633333 days = (3m, 48s), from the deficiency determined using the more precise of the two estimates for the 235 lunar months, i.e., (3m, 37s), leading to the conclusion that the 19 solar years are now 11s (264 modern seconds) shorter than the 235 lunar months. For the sake of completeness, it is noted that subtracting (3m, 48s) from the (4m, 10s) instead, yields a lunar cycle that is 22s (528 modern seconds) shorter than the solar cycle.

200. At this point, there is an apparent error in the Greek text reproduced by both Rhalles and Potles and by Migne. It reads "one thirtieth," instead of one three-hundredth, per §7.2.5 and §7.18.22. The presence of two errors in the same sentence suggests that this has been added by a scribe less adept in mathematics and astronomy than Vlastares. The text would flow better and make more sense without it.

201. See §§7.2.5; 7.18.22.

202. According to a footnote by Rhalles and Potles, a variant of this sentence occurs in Manuscript 1375 (A.D. 1541): "by the numbers [*sic*] of 19 years alone."

203. Literally, periods (Gr. περιόδων).

204. Alternatively, entire (Gr. ἐντελεῖς).

205. Literally, periods (Gr. περιόδους).

206. Literally, not incomplete (Gr. ἀνελλιπεῖς). This statement contradicts §7.10.4–5, where it is indicated that there is an overflow of one day in 304 years.

207. Actually, retaining (365+¼–1/300) for the length of the solar year and (29d; 31m, 50s) for the lunar month (as truncated by Vlastares), the 19-year solar cycle is found to be 22 seconds (=528 modern seconds) longer than 235 lunar months. Adopting the more precise length of the lunar month quoted by Ptolemy (29d; 31m, 50s, 8t, 20f), yields a 19-year solar cycle that is (10s, 38t, 20f) or 255.33 modern seconds shorter than 235 lunar months. Using modern astronomical data, 19 tropical years = 234.997067 synodic months, i.e., the 19-year cycle is 7,483.5 modern seconds (2h, 4m, 43.5 s) shorter than 235 lunar months. Newton (p. 30) notes that "in terms of astronomical quantities, 19 years = 6939.602 days and 235 months = 6939.688 days. The discrepancy is 0.086 days or about 2 hours." Newton also suggests that "[making] 19 years = 235 months exactly in terms of the Julian year" was the "contribution" of Theophilus, Bishop of Alexandria (385-412), who also prepared the list of ecclesiastical Paschal full moons, eventually adopted by East and West until the Gregorian reform of 1582 (Newton, p. 29). Yet, "Theophilus probably did not originate this equality; it seems to have been used in the tables devised by one Anatolius about [A.D.] 270" (Newton, p. 30; see also Jones, C. W. (1943), *Bedae Opera de Temporibus*, Mediaeval Academy of America, Cambridge, MA, pp. 20, 29). The equivalency between 235 lunar months and 19 solar years is explained already by Geminus of Rhodes (Manitius, C., *Gemini Elementa Astronomiae*, Ch. 8.50–60, Lipsiae, Saxony: 1898, pp. 120–123). Geminus flourished in the 1st c. BC, and attributed this discovery to Euctemon of Athens, a contemporary and associate of Meton (c. 432 BC).

208. Gr. περιοδικόν. Vlastares echoes Ptolemy's *Almagest* (Book IV.2) once again: "The even more ancient [astronomers] … called this interval the 'Periodic', since it is the smallest single period which contains (approximately) an integer number of returns of the various motions." See Toomer, p. 175, who notes: "This period, generally, but wrongly, called 'Saros' in modern times, was well known in Babylonian astronomy [8th c. B.C.]. We do not know to whom Ptolemy refers by 'the even more ancient people', except that they are earlier than Hipparchus [180–110 B.C.]."

209. = the sun and the moon. Also known as the Metonic cycle, after the Greek astronomer Meton of Athens, who flourished about 432 B.C. (Pickering, pp. 24, 371). For a succinct discussion of the Metonic cycle and its relationship to earlier (8- and 16-year) cycles reported by Pliny (*Plinius Secundus*, A.D. 23–79), as well as subsequent efforts to enhance it by Callippus of Cyzicus (*c.* 370–300 B.C.), see Stevens, pp. I.31–32, who notes that "the Metonic lunar cycle [of 235 months, comprising 6940 days] is about 2 minutes too long, and the supposed solar cycle would be about 30 minutes too long." Adding that the 19-year cycle was also "accepted in the solar calendar of the Roman Republic," following the reform by Julius Caesar (45 B.C.), Stevens provides the following details about the "classic form" of the Metonic cycle: 19 solar years of 365¼ days total

6939¾ days; and 228 lunar months of 29½ days, plus 7 intercalary months of 30 days, plus 4¾ embolismic (or leap) days, accumulate to 6940¾ days. "There was a remainder of one lunar day which they called *Saltus lunae*; that is, if you simply skip over that one extra lunar day, you may repeat the 19-year cycle and remain rather well in accord with the course of the sun. It was in this form that the 19-year cycle was adapted to Christian usage at Alexandria and Milan, later at Carthage, and eventually at Rome" (Stevens, p. I–32). There is evidence that the Babylonians were aware of the 19-year cycle, several centuries before Meton (Hoyle, p. 80). Finegan (p. 27) notes that by the 8th century B.C., Babylonian astronomers had devised a "remarkable" 19-year cycle "with its seven intercalated months," which matched 19 solar years with 235 lunar months. Using modern astronomical estimates, 19 years amount to 6,939.601777 days, while 235 lunar months constitute 6,939.688392 days, the latter being longer by 0.086614 days, or 2h, 4m, 43.49s, i.e., by 0.45587 days per century.

[*7.6*] *Διατὶ εἰσιν εἰκοσιοκτὼ οἱ τοῦ ἡλίου κύκλοι;*

<1>Εἰς κη′. δὲ κύκλους ἄνεισιν ὁ τοῦ ἡλίου δρόμος, ὅτι αἱ τξε′. καὶ τέταρτον ἡμέρας τοῦ χρόνου ποιοῦσιν ἑβδομάδας νβ′. <2>καὶ περιττεύει καθ᾽ ἕκαστον χρόνον ἡμέρα μία, καὶ κατὰ τέσσαρας χρόνους, αὖθις ἑτέρα μία· <3>ὅθεν καὶ ζητοῦντες εὑρεῖν ἀπὸ τῆς τοῦ ἡλίου κινήσεως τὴν τῆς ἑβδομάδος ἡμέραν, καθ᾽ ἕκαστον κύκλον αὐτοῦ, ἡμέραν μίαν προσλαμβάνομεν, καὶ μετὰ τέσσαρας χρόνους, χάριν τοῦ βισέκτου, ἑτέραν μίαν· <4>καὶ συμποσοῦντες, τὴν ζητουμένην ἡμέραν εὑρίσκομεν. <5>Αἱ οὖν περιττεύουσαι αὗται ἐν οὐδενὶ ἑτέρῳ χρόνῳ ὁλοκλήρους ἑβδομάδας ἀπαρτίσαι δύνανται, ὡς ἐν τῷ τέλει τοῦ χρόνου καὶ τέλος ἑβδομάδος εὑρεθῆναι, εἰ μὴ ἐν τῷ κη′. κύκλῳ· <6>αἱ γὰρ κη′. ἡμέραι, ἑβδομάδες γίνονται τέσσαρες, καὶ τὰ κη′. τέταρτα τῶν ἡμερῶν, ἑβδομὰς αὖθις μία, <7>ὅπερ ἐν ἑτέρῳ οὐχ οἷόν τε συμβῆναι κύκλῳ, εἰμὴ ἐν τῷ κη′. ἢ ἐν τῷ δὶς κη′, ἢ τρὶς κη′. καὶ ἑξῆς· <8>ἐὰν δὲ ἐπέκεινα τῶν ιθ′. τῆς σελήνης κύκλων, ἢ τῶν κη′. τοῦ ἡλίου, ἐθελήσωμεν ἐκτεῖναι τὸν ἀριθμόν, εὑρεθήσεται τὸ ζητούμενον ἐν τοῖς ἐπέκεινα κύκλοις, <9>ὡς καὶ ἐν τῷ α′. ἢ β′. ἢ γ′. κύκλῳ ἐπεγινώσκετο.

NOTES:

210. This is a rare case in Migne, in which the Greek question mark, ";", is retained in both the Greek and Latin texts.

211. Gr. δρόμος.

212. The 28-year "κύκλος ἡλίου" (solar cycle) is used in the Preface of the *Chronicon Paschale* (*c.* A.D. 628; *Trochos* I, Migne, PG 92:69–100), and also in the *Canonion* of St John of Damascus (*c.* A.D. 675–*c.* A.D. 749; Migne, *PG* 95:239–240). Yet, according to Pedersen (p. 74): "The term *cyclus solaris* was unknown to Bede [*c.* A.D. 725] but appeared in an anonymous *Liber de computo* from A.D. 810 or earlier."

213. 52x7 = 364.

[*7.6*] *Why Are Twenty-Eight the Cycles of the Sun?*[210]

<1>Unto 28 cycles stretches the course[211] of the sun,[212] for the 365 and a quarter days of the year constitute 52 weeks, <2>and every [regular or leap] year overflows one day,[213] and every four years [every leap year overflows] again another one. <3>Whence, when we also seek to find the day of the week based on the movement of the sun, upon each of his[214] [annual] cycles[215] we accumulate one day,[216] and after four years, for the sake of the leap [year], another one.[217] <4>And by summing [them] up, we find the sought day.[218] <5>Now, these superfluous [days] cannot constitute entire weeks in any other year, such that at the completion of the year the completion of the week might also be found, except in the 28th cycle.[219] <6>For the 28 days[220] become four weeks, and the 28 quarters[221] of a day again one week, <7>which is the very reason why such [an event] will not happen in any other cycle except in the 28th, or in the twice 28th, or in the thrice 28th, and so forth. <8>And if beyond the 19 cycles of the moon or the 28 cycles of the sun we should desire to extend the number, **(413)** <9>the sought for shall be found in the subsequent cycles, like it had also been encountered in the 1st, or in the 2nd, or in the 3rd cycle.

214. = the sun's.

215. i.e., annually.

216. e.g., if January1 is on Sunday this year, it will be on Monday next year, on Tuesday during the second next, etc., assuming we cross no leap year.

217. e.g., if during a leap year January 1 falls on Sunday, the next year this date will fall on Tuesday, not on Monday. Stated mathematically, this algorithm is as follows: OD = SC + Int (SC / 4), in which OD: overflowing days; SC: Solar Cycle; Int: Integer function. Note that by applying this algorithm, Vlastares essentially compensates for the fact that Solar Cycle = 1 begins on a Monday, not on a Sunday; e.g., October 1, A.D. 876 or 6385 MEC was a Monday. See also

§§7.8.6n; 7.14.4n.

218. This calculation is elaborated in §7.8.6, where it is explained in a footnote. See also §§7.7.7; 7.14.6.

219. The meaning of this segment is that the pattern of days of the week in successive years follows a cycle of 28 years. For instance, December 31, 1335 was a Sunday; similarly, 28 years later, December 31, 1363 was also a Sunday. Any day and date in 1336 would be identical to the corresponding day and date in 1364 (e.g., March 25 was a Monday in both); in 1337 to 1365 (e.g., December 25 was a Thursday in both); in 1338 to 1366 (e.g., November 16–the feast day of the Apostle Matthew–was a Monday in both); etc. These observations, however, hold true only for the Julian calendar; the corresponding cycle in the Gregorian calendar would be 400 years, not 28 nor 2800 years, on account of how century years are treated with regard to being leap or regular (see Tondering, §2.4).

220. = overflowing one day every regular and leap year.

221. = overflowing one quarter of a day every regular and leap year, such that every leap year overflows one additional day.

[*7.7*] *Διὰ τὶ ἀπὸ τοῦ Ἰανουαρίου οἱ τῆς σελήνης κύκλοι καὶ θεμέλιοι ἄρχονται;*

<1>Ἀπὸ δὲ τοῦ Ἰανουαρίου μηνὸς τόν τε κύκλον τῆς σελήνης καὶ τὸν θεμέλιον ψηφίζειν ἀρχόμεθα, <2>ὅτι τῇ μὲν τετάρτῃ τῆς ἑβδομάδος ἡμέρᾳ, ὅ,τε ἥλιος καὶ ἡ σελήνη τῷ δημιουργῷ λόγῳ εἰς τὸ εἶναι παρήχθησαν, <3>τῷ δὲ πεντεκαιδεκάτῳ δρόμῳ τοῦ κατὰ τὸν Μάρτιον μῆνα σεληνιακοῦ μηνός, ἄρτι πρῶτον ἀνατετάλκασιν, <4>ἅτε τῆς σελήνης πεντεκαιδεκαταίας εὐθὺς καὶ τελείας ἀναφανείσης, <5>μηδὲν ἀτελὲς ἐξ ἀρχῆς τοῦ Θεοῦ πεποιηκέναι θελήσαντος· <6>ἵνα μετὰ τὸ δύναι τὸν ἥλιον πρωΐ ἀνατείλαντα, καὶ τὴν εἰς ἐξουσίαν αὐτῷ δοθεῖσαν ἡμέραν ὅλην καταφωτίσαντα, ὅλην καὶ αὐτὴ καταυγάσῃ τὴν ὑπεξούσιον νύκτα. <7>Ἀπὸ τῆς ιε′. οὖν τοῦ Μαρτίου μέχρις ὅλου τοῦ Δεκεμβρίου, μῆνες εὑρίσκονται ἡλιακοὶ μὲν θ′. καὶ ἥμισυς, διαφόρους ἡμερῶν ἕκαστος ποσότητας ἔχοντες· <8>οἱ δὲ τῆς σελήνης, δι᾽ ἡμερῶν ἀεὶ γινόμενοι κθ′. καὶ ἡμισείας, οὐ μόνον μῆνες ὁρῶνται τοσοῦτοι, ἀλλὰ πρὸς τούτοις καὶ ἡμέραι περιττεύουσιν ια′. <9>ὁ γὰρ Ἰανουάριος καὶ ὁ Φεβρουάριος συντιθέμενοι, οὐδὲν πλέον φέρουσι σεληνιακῶν δύο μηνῶν. <10>Ἐπεὶ οὖν τῇ τοῦ Ἰανουαρίου α′. ὁ περιττεύων τῶν ια′. ἡμερῶν ἀριθμὸς σαφῶς ἀνεφάνη μετὰ τὸν ἀπαρτισμὸν τοῦ τελείου τῆς σελήνης κύκλου, <11>ἀναγκαίως ἀπὸ τοῦ Ἰανουαρίου ὅ,τε κύκλος αὐτῆς, καὶ ὁ περιττεύων ἀριθμὸς ἄρχεται, <12>θεμέλιος τῶν ἡμερῶν τοῦ ἑξῆς αὐτῆς κύκλου, καὶ ὤν, καὶ καλούμενος.

NOTES:

222. In Migne, the question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

223. The definition of the term was given in §7.2.21.

224. = Wednesday.

225. Gen 1:14–19.

226. = day (Gr. δρόμῳ). Vlastares argues that the luminaries were created

[*7.7*] *Why do the Cycles and the* Themelioi *of the Moon Commence as of January?*[222]

<1>As of the month of January, we begin computing both the cycle of the moon and [her] *themelios*,[223] <2>since on the fourth day of the week,[224] both the sun and the moon by the creative word were brought forth into being,[225] <3>and also [since] during the fifteenth course[226] of the lunar month that [occurs] in the month of March they shone forth for the very first time, <4>even as the moon first appeared at once and complete[227] on her fifteenth [day] of age,[228] <5>because God from the beginning did not will to create anything incomplete.[229] <6>So that, after the setting of the sun (who had risen in the morning and had brightly illumined the entire day that was placed under his authority), she should also herself brighten the night [that was given] to her dominion. <7>Now, from the [night at the end of the] 15th of March until the entire[230] [month of] December, are found 9 and a half solar months,[231] each having different quantities of days.[232] <8>As for the [months] of the moon, which are accomplished always in 29 and a half days, they not only are observed [to be] just as many,[233] but in addition to them there are also superfluous 11 days.[234] <9>For when January and February are combined,[235] they carry nothing more than two lunar months.[236] <10>Now, because on the first of January, the superfluous number of the 11 days was clearly manifest after the completion of the ultimate[237] cycle of the moon, <11>by necessity as of January commence both her cycle and the superfluous number of days, <12>which is and is called the *themelios* of the days of her subsequent cycle.

on the fourth day of creation, and–more specifically–on Wednesday, March 15. The moon, he states, was created on her 15th day; consequently, she would have been one day old on March 1. According to the traditional convention adopted in reckoning the age of the moon, the moon would also have been one day old on the preceding January 1. Both these dates of March 1 and January 1, of course, would have been 'virtual' days, since the world had not been created yet. These

data agree with those employed in the Latin *The Paschal Canon of Anatolius* (Ch. 13, 6th c.?, see Roberts and Donaldson, pp. 149–150), which provides an illustration of the ages of the moon around a particular Julian year. According to *Canonion B*, such a year would occur in the 16th Lunar Cycle, leading to a *themelios* of 11 in Lunar Cycle 17. Alternatively, if the *original* epacts are followed (see §7.10.1n) , such a year would occur in the 19th Lunar Cycle, leading to an epact of 11 in Lunar Cycle 1. The latter option would be a more attractive choice (confirmed by the algorithm of §7.9, which gives Lunar Cycle = 1 for Year 1 MEC), particularly when combined with Solar Cycle of 28; in that case, the following October 1 would be a Sunday (§7.8.3), and Solar Cycle 1 would begin. Vlastares' creation scheme, therefore, intends to demonstrate quite fittingly that during the first year since the creation of the world (i.e., after Sunday, March 12, "0" MEC) both the Lunar and the Solar Cycles had their initial values of 1! Moreover, it seems to lend support to the notions of a Byzantine year starting on a date near October 1, when the Solar Cycle begins (§7.8), as well as of a Roman year starting on January 1, when the Lunar Cycle begins (§7.7). It would further corroborate the choice of the year 5509/5508 B.C. as the beginning year for Byzantine reckoning from the creation of the world, since that year has both Lunar and Solar Cycles of 1. The implication is that October 1, 5509 B.C. was a Sunday on which Solar Cycle 1 began, and that January 1, 5508 B.C. was a Monday on which Lunar Cycle 1 started (both dates would be reckoned in year 1 MEC). The apparent perfect fit of this scheme, however, breaks down when one considers other years beginning great *alpha* cycles of 532 years, e.g., A.D. 344/345, 876/877, and 1408/1409 (corresponding to 5853, 6385, and 6917 MEC, respectively), etc. (cf. §7.11b.3). This indicates that Solar Cycle 1 begins on a Monday (not a Sunday) and Lunar Cycle 1 starts on a Tuesday (not a Monday) during such years. For an earlier attempt to date the creation, see *De Pascha Computus* (Ch. 4, *c.* A.D. 243, see Ogg, pp. 3, 25), which "identifies the first day of creation with the spring equinox, the date of which was understood in the west to be the 25 March." See also §7.4.3–4: according to Vlastares' creation scheme, man would have been created on Friday, March 17, not March 23 as when Christ underwent His passion. It is to his scientific credit that Vlastares does not attempt to gloss over such inconsistencies using contrived cosmological arguments as other Byzantine writers did; e.g., Isaac Monachus Argyros (A.D. 1373; Migne, *PG* 19:1293, as cited by Delempases, p. 432).

227. = full, perfect.

228. Walsh, M. and Ó Cróinín, D. (1988), "Cummian's Letter *De Controversia Paschali* and the *De Ratione Conputandi*," Pontifical Institute of Mediaeval Studies, Studies and Texts 86, Toronto, Ontario, Canada, p. 104: "The important question of when and in what state the moon was created (whether the moon was full or not at Creation) [was] a problem that vexed every computist from the very earliest days of the Church." Cf. *De Ratione Conputandi*,

67 (Walsh and Ó Cróinín, p. 175), which quotes the opinions of Victorius of Aquitaine (c. 455) and Augustine of Hippo (395–430) on the issue. For his part, Severianus of Gavala writes (4th c., PG 56:449): "Now God creates the moon as a fifteen-day old in her fullness. The sun was rising at dawn; for when the moon was made at dawn, she appeared already setting. Thus, when the sun was traversing his own path toward [setting in] the west, the moon immediately began [rising] in the east, so that the [saying] might be fulfilled, *Let them rule over the day and the night* [*, respectively*]. Therefore, [here is] the issue: Why did God create the moon in its fullness? Heed! For the meaning is deep! It would be appropriate that since she was created on the fourth day, she should shine as four days old. But then again, if she was four days old, she would not have sustained the end of the setting [of the sun]. Thus, she was found having an advantage of eleven days. She was created as a four-day old, but she shone as a fifteen-day old. Consequently, the moon had an advantage over the sun by eleven days, not on account of [her] creation but on account of [her] illumination. For this reason, the [number of days] by which the moon had an advantage at that time, she gives back to the sun [at the end of the Julian year]."

229. = imperfect. See also §7.3.8.

230. = end of the.

231. April to December are the nine solar months mentioned here, and the "half" month consists of the 16 days of March from the 16th to the 31st, inclusive.

232. 16+4x30+5x31+0.25 = 291.25. For day of the week determinations, see also §§7.6.4; 7.8.6; 7.14.6. Note that as far as the moon is concerned, the calculation involves 16 days in March, i.e., not inclusive of March 15, presumably since the moon arose at its conclusion. A subsequent calculation pertaining to the sun (§7.8.9) will involve 17 days in March.

233. i.e., 9 and a half.

234. 291.25 – (29.5x9.5) = 11.

235. 31+28 = 59. The fact implicit in this statement by Vlastares is that in the traditional reckoning of the 19-year ecclesiastical cycle, "each year was [first] assumed to consist of exactly 365 days. The leap days were [then accommodated] after the lunations had been distributed … by inserting an extra leap day every four years into whichever lunation contained 24 February. This lunation would then contain 31 or 30 days in leap years (according to whether it ordinarily had 30 or 29 days)." See Richards, pp. 355–356; see also §7.2.21n.

236. 2x29.5 = 59.

237. Literally, perfect (cf. §7.7.4); the last for the specific solar year considered, which ended on December 31. The fact implicit in this statement by Vlastares is that in the traditional reckoning of the 19-year ecclesiastical cycle, "the first lunation of a Julian year is taken to be the first one that ends in it. Thus, lunations that straddle two Julian years are, by convention, taken to belong to the year in which they end so that some lunations start in December of one year

and end in January of the next." See Richards, p. 355. The arguments in this section appear contrived, as Vlastares attempts to ascribe a theological meaning to the choice of January 1, as found, for example, in the Latin *The Paschal Canon of Anatolius* (Ch. 13, 6th c.?, see Roberts and Donaldson, pp. 149–150). This choice is arbitrary, since any other date could have been selected instead. January 1, however, was preferred presumably because (a) it marks the start of the Roman (Julian) year, and (b) the age of the moon on this day can be assumed to be the same as on March 1 for the sake of Paschal calculations.

[*7.8*] *Διὰ τὶ ἀπὸ τοῦ Ὀκτωβρίου οἱ κύκλοι τοῦ ἡλίου ἄρχονται;*

<1>Ἀπὸ δὲ τοῦ Ὀκτωβρίου τὰς τῶν κύκλων τοῦ ἡλίου φαμὲν ἄρχεσθαι περιόδους, ὅτι τῷ ιε′. δρόμῳ τοῦ Μαρτίου μηνός, ἀνατείλαντος τοῦ ἡλίου, <2>μέχρι τοῦ Ὀκτωβρίου μηνός, ἐνηλλαγμένως αἱ τῶν μηνῶν ἡμέραι πρὸς τὰς τῆς ἑβδομάδος ἐφέροντο· <3>τῇ δὲ α′. τοῦ Ὀκτωβρίου εὑρεθείσης καὶ τῆς ἑβδομάδος ἐν τῇ α′. τῶν αὐτῆς ἡμερῶν, ἐκεῖθεν καὶ ἀρχόμεθα· <4>οὐδεὶς γὰρ τῶν μηνῶν ἕτερος, ὅτι μὴ μόνος ὁ Ὀκτώβριος, κατὰ τὴν πρώτην τοῦ ἡλίου περίοδον, τὴν πρώτην τῶν αὐτοῦ ἡμερῶν τῇ πρώτῃ τῆς ἑβδομάδος ἔχει συμπίπτουσαν. <5>Ἐκ τούτου τοίνυν ἀρχόμενοι, ἑκάστου τῶν ἑξῆς μηνῶν, τὰς μὲν κη′. ἡμέρας ἐῶμεν, ὡς ὁλοκλήρους ἑβδομάδας ἀπαρτιζούσας, <6>τὰς δὲ ἐπέκεινα τούτων λαμβάνομεν, ἕως ἂν εἰς τὴν ἡμέραν ἔλθωμεν, περὶ ἧς τὴν ζήτησιν ἔχομεν. <7>Ὅτι δὲ κατὰ τὸν πρῶτον τῆς δημιουργίας τοῦ ἡλίου κύκλον οὕτω συνήντησε, καταμαθεῖν εὐπετές· <8>ἀπὸ τῆς ιε′. τοῦ Μαρτίου, ἐν ᾗ τὴν γένεσιν ἔσχεν ὁ ἥλιος, μέχρις ὅλου τοῦ Σεπτεμβρίου, <9>μετὰ τῶν πρὸ τοῦ ἡλίου τριῶν ἡμερῶν ἡμέραι γίνονται σγ′, αἵτινες ποιοῦσιν ἑβδομάδας ἐννέα καὶ εἴκοσιν· <10>ἑπτάκις γὰρ τὰ εἴκοσιν, ἑκατὸν τεσσαράκοντα, καὶ ἑπτάκις τὰ ἐννέα, ἑξήκοντα τρία· <11>λοιπὸν ἡ πρώτη τοῦ Ὀκτωβρίου ἐγένετο καὶ πρώτη τῆς ἑβδομάδος.

NOTES:

238. In Migne, the Greek question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

239. Literally, periods (Gr. περιόδους).

240. = day (Gr. δρόμῳ). As noted earlier, Vlastares argues that the sun and the moon were created on Wednesday, March 15, presumably in year "0" MEC.

241. i.e., on the fourth day of creation, a Wednesday.

242. = Sunday.

[*7.8*] *Why Do the Cycles of the Sun Commence as of October?*[238]

<1>And as of October we say that we commence the circuits[239] of the cycles of the sun because on the 15th course[240] of the month of March, when the sun had [first] risen,[241] <2>until the month of *[80]* October, the days of the months were carried in sequence [relative] to the days of the week. <3>And on the 1st of October, when the week was also found on the 1st of her days,[242] precisely from there do we commence. <4>For none other of the months, except for October alone, during the first **(414)** circuit[243] of the sun,[244] has the first of its days coinciding with the first [day] of the week.[245] <5>Accordingly, starting from this [month of October] we leave off 28 days from each of the subsequent months, as constituting entire weeks, <6>and we accept [only] those [days] beyond them,[246] until we come upon the day about which we have [our] question.[247] <7>To comprehend then that during the first cycle after the creation of the sun, thus did it occur is an easy [task]. <8>From the 15th of March,[248] on which [day] the sun had [his] creation, until the completion of September,[249] <9>along with the three days prior to the [creation of the] sun, are made 203 days,[250] which make twenty and nine weeks.[251] <10>For seven times the twenty [equals] one hundred and forty, and seven times the nine [equals] sixty three. <11>Consequently, the first of October happened to be also the first [day] of the week.[252]

243. Literally, period (Gr. περίοδον). The text of Rhalles and Potles contains a small typographical error (περιόδον), but the Greek text in Migne has the accent on the correct syllable.

244. i.e., during the first year after creation. In any year during which March 15 is a Wednesday, October 1 is a Sunday. Yet, it was pointed out in §7.7.3n that the beginning of Solar Cycle = 1 occurs on Monday, not on Sunday; e.g., October 1, A.D. 1408 or 6917 MEC was a Monday.

245. = Sunday. This can easily be verified for any twelve-month period following March 15 falling on a Wednesday, during regular and/or leap years.

246. = these twenty eight days.

247. The purpose of this calculation is the determination of the day of the week for any given date within the period October 1 through September 30, assuming October 1 to be a Sunday and the year beginning on the succeeding January 1 to be regular (i.e., not a leap year). Consider, for example, July 24. We add 3 days from October (since it has 31 days, and 31-28=3); 2 days from November (since it has 30 days, and 30-28=2); 3 from December; 3 from January; none from February (since it has 28 days, and 28-28=0); 3 from March; 2 from April; 3 from May; 2 from June; and, of course, 24 from July. Summing these up, 21 + 24 = 45. Dividing by 7, 45/7 = 6, remainder 3. Consequently July 24 is {Sunday + 3 (inclusive both ways)}, i.e., a Tuesday. In the next cycle of the sun, October 1 is a Monday, and therefore, July 24 is a Wednesday. Thus, from above (§7.6.3), "upon each of [the sun's annual] cycles we accumulate one day, and after four years, for the sake of the leap [year], another one." Note, however, that by applying this rule, Vlastares essentially compensates for the fact that Solar Cycle = 1 begins on a Monday, not on a Sunday; e.g., October 1, A.D. 876 or 6385 MEC was a Monday. See also §§7.6.3n; 7.14.4n.

248. The reckoning includes the 15th of March, a Wednesday.

249. = September 30th.

250. 17+3x30+3x31+3 = 203. Note that as far as the sun is concerned, the calculation involves 17 days in March. A previous calculation pertaining to the moon (§7.7.7) had involved only 16 days in March.

251. 203/7 = 29.

252. = a Sunday. The meaning of this segment is simply the following: The first day of creation was Sunday, March 12. The sun was created three days later, on Wednesday, March 15. From March 12 to September 30 (inclusive), there were 203 days, i.e., 29 full weeks. Therefore, October 1 was also a Sunday. This may be verified by checking any calendar for which March 12 is a Sunday: it will show that October 1 is also a Sunday. Indeed, this "is an easy [task];" explaining why Solar Cycle = 1 begins on a Monday rather than a Sunday is evidently not.

[*7.9*] *Πῶς ὁ τῆς σελήνης εὑρίσκεται κύκλος;*

<1>Ἀλλ᾽ ἡνίκα τὸν τῆς σελήνης κύκλον εὑρεῖν ἐθελήσειας, τοῖς δακτύλοις τῶν χειρῶν τὸ ἐνιστάμενον ἔτος λάμβανε. <2>Κείσθω δὴ τὸ ἐφ᾽ ἡμῶν ,ϛωμγ′. <3>καὶ ἐπεὶ τὴν αὐτὴν ἀναλογίαν ἔχουσι τῷ ιθ′. ἀριθμῷ τῶν τῆς σελήνης κύκλων, ὅ,τε ρκ′. καὶ ὁ ,αϡ′, ἄφελε πρῶτον ἐν τρίτου τὸν ,αϡ′· <4>εἶτα τῶν μεινάντων ,αρμγ′. ἀφελὼν ἑξάκις τὸν ρκ′, ἕξεις τὰ περιλειπόμενα τρία, ἅπερ εἰσὶν ὁ κύκλος τῆς σελήνης. <5>Εἰ δὲ βούλει, κράτησον τὸ μικρὸν ἔτος μόνον, ἤτοι τὰ μγ′. πρόσθες καὶ τὰ ιζ′. τὰ περισσεύσαντα ἀπὸ τῆς παρελθούσης ἑκατονταετηρίδος, <6>καὶ τὰ ὁμοῦ γινόμενα ξ′. ὕφελε ἐπὶ τῶν ιθ′. καὶ τὰ καταλειφθέντα τρία δηλοῦσι τρανῶς τῆς σελήνης τὸν κύκλον.

NOTES:

253. In Migne, the Greek question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

254. = the current year is A.D. 1335 = 6843-5508. Note that the year 6843 MEC commenced on 9/1/1334 and ended on 8/31/1335, according to the Byzantine reckoning of the ecclesiastical year (see Newton, p. 517, and §7.4.13n). According to the reckoning of the solar cycles, however, the same year spanned 10/1/1334 through 9/30/1335.

255. = since both 190 and 1900 are multiples of 19.

256. 6843-3x1900 = 1143.

257. 1143-6x190 = 3. Stated mathematically, this algorithm is as follows: LC = Mod (Y , 19), in which LC: Lunar Cycle; Y: Year in MEC, or Y=A.D.+5508; Mod: remainder of. If the remainder is 0, then LC=19. I have checked this formula and it applies to both A.D. 1335, as well as the years in modern-day editions of the liturgical books of the Church of Greece.

[*7.9*] *How is the Cycle of the Moon Determined?*[253]

<1>But whenever you should desire to determine the cycle of the moon, take the current year upon the fingers of the hands. <2>For example, the [year] upon us is situated at 6843.[254] <3>And because the same proportion to the number 19 of the cycles of the moon have both the [number] 190 and the [number] 1900,[255] subtract first three times the [number] 1900.[256] <4>Then, from the remaining 1143, having subtracted 6 times the [number] 190, you will have the remnant three,[257] which are the cycle of the moon. <5>Alternatively, if you wish, retain only the minor year, that is the 43, and add the 17 that overflowed from the preceding century,[258] <6>and the sum created[259] [of] 60 divide by 19 and the residual three declare clearly the cycle of the moon.[260]

258. 6800/19 = 357, remainder 17.

259. 43+17 = 60.

260. 60/19 = 3, remainder 3. Stated mathematically, this algorithm is as follows: LC = Mod ({Mod (Y , 100) + Mod (100 * Int (Y, 100), 19)}, 19), in which LC: Lunar Cycle; Y: Year in MEC, or Y=A.D.+5508: Int: integer portion of; and * denotes multiplication. If the remainder is 0, then LC=19. I have checked this formula and it applies to both A.D. 1335, as well as the years in modern-day editions of the liturgical books of the Church of Greece.

[*7.10*] *Πῶς ὁ τῆς σελήνης εὑρίσκεται θεμέλιος;*

<1>Τὸν δὲ ταύτης θεμέλιον ἀκριβῶς εἴσῃ, ἐάν περ ὃν εὗρες αὐτῆς κύκλον ἐνδεκαπλασιάσας, καὶ τρεῖς ἡμέρας τούτοις προσθείς, ὑφέλῃς ἐπὶ τῶν λ′. <2>καὶ τὸν καταλειφθέντα ἀριθμόν, ὡς θεμέλιον τῆς σελήνης κρατήσῃς· <3>αἱ δὲ τρεῖς αὗται ἡμέραι προστίθενται, διὰ τὸ μὴ ἀποκαθίστασθαι τὰς τῆς σελήνης κατὰ μῆκος παρόδους ἐν ὅλοις ιθ′. ἔτεσιν, ὡς εἴρηται· <4>ἀλλὰ παρὰ μιᾶς ἡμέρας ἑξηκοστὰ πρῶτα τρία, καὶ δεύτερα τριάκοντα ἑπτά, <5>ὥστε εἰς τριακοσίους τέσσαρας ἐνιαυτοὺς μίαν ἡμέραν ἔγγιστα τὸν κύκλον ἐλαττοῦσθαι τῆς σελήνης· <6>διὰ δὴ τοῦτο ἐπὶ μὲν τοῦ ,ε϶κθ′. ἔτους τοῦ κόσμου, οὐδεμία ἡμέρα τῷ ἐνδεκαπλασιασμῷ τοῦ κύκλου τῆς σελήνης προσετίθετο· <7>τὸ ἀπ᾽ ἐκείνου δὲ ἄχρι τοῦ ,ϛσλγ′. ἔτους, μία προσετέθη· <8>ἐντεῦθεν δὲ μέχρι τοῦ ,ϛφλζ′. ἔτους, δύο· <9>αὖθις δὲ ἄχρι τοῦ ,ϛωμα′, τρεῖς· <10>εἰσέπειτα δὲ κατὰ τὸ ἴσον τοῦ εἰρημένου χρόνου διάστημα, τέσσαρες προστεθήσονται· <11>πλὴν καὶ κατὰ τὸ παρὸν τὸν ιζ′, τὸν ιη′, καὶ τὸν ιθ′. κύκλον τῆς σελήνης ἐνδεκαπλασιάζων, τέσσαρας ἡμέρας προσθήσεις, <12>καὶ οὕτω τὴν ποστὴν τοῦ σεληνιακοῦ εὑρεῖν ἂν δυνηθείης μηνός.

NOTES:

261. In Migne, the Greek question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

262. = the moon's.

263. The more common computistical term is epact (Gr. ἐπακτή; L. *adiectio lunaris*), which refers to the age of the moon (i.e., the number of days that have passed since a new moon) on a particular date (Tondering, §2.9.4). Katses, D. N.

[*7.10*] *How is the* Themelios *of the Moon Determined?*[261]

<1>Now, you will also know precisely her[262] *themelios*[263] if having multiplied by eleven the very cycle of hers[264] you have determined,[265] and having added three days to these, you divide by 30, <2>and the residual number you retain as the *themelios* of the moon.[266] <3>As for these three days, they are added on account of the fact that the passages of the moon according to [their] length[267] are not recapitulated within the entirety of the 19 years, as has been said.[268] <4>But [19 solar years are longer] by three first sixtieths[269] of a day and thirty seven seconds,[270] <5>such that in **(415)** three hundred [and] four years[271] the cycle of the moon is truncated[272] by most closely one day.[273] <6>It is precisely[274] because of this that in the 5929th year[275] of the [creation of the] world, not a day was added upon the multiplication of the cycle of the moon by eleven. <7>From that [year] until the 6233th year,[276] one [day] was added. <8>From then until the 6537th year,[277] two [days were added]. <9>Then again until the 6841st [year],[278] three [days were added].[279] <10>Thereafter, according to an interval equal to the said time, four [days] shall be added.[280] <11>Nonetheless, even at present,[281] when you multiply by eleven the 17th, the 18th and the 19th cycle[282] of the moon, you shall add four days, <12>and in this manner you may be able to find the particular date of the lunar month [corresponding to January 1].

(1964), "'Επακτή," in *Θρησκευτικὴ καὶ Ἠθικὴ Ἐγκυκλοπαιδεία* (=Religious and Moral Encyclopaedia), in Greek, Vol. 5, Athens, Greece, Col. 762, defines the term as follows: "The epact or the *themelios* of the moon for [a given] year in the Christian era [is] the age of the moon on the 31st of December of the preceding year." Most Western writers use January 1 as the reference date, as, for example, Richards, p. 361: "The epact of a year is defined as the age of the no-

tional [= theoretical, ecclesiastical] moon on the first of the year, 1 January; if there is a new moon on this day, as in year moon III [i.e., when the (Western) Golden Number, GN, is 3, or the (Eastern) Lunar Cycle, LC, is 19], the epact is zero [or 30] … since a new lunation begins on 1 January." Similarly, Jones, p. 16; Pedersen, p. 40; but also in the East, e.g., Preface of the *Chronicon Paschale* (*c.* 628; *Trochos* II, Migne, PG 92:69–100); Isaac Monachus Argyros (A.D. 1373; Migne, *PG* 19:1321, cited by Delempases, p. 430); and Vlastares (§§7.4.20; 7.7.1, 10, 11; 7.13a.1; 7.13b.1). These are reconciled by Archer, P. (1941), *The Christian Calendar and the Gregorian Reform*, Fordham University Press, New York, NY, p. 21, who defines "the epact of a given year [as] 1° The excess after the last completed lunation of the preceding year to the end of that year … 2° The age of the moon at the beginning of the given year (midnight)." It is obvious, therefore, that the distinction is merely semantic and that both definitions refer to the age of the moon at midnight between December 31 and January 1, i.e., at the beginning of the Julian year. This is very much along the lines followed in the Latin *The Paschal Canon of Anatolius* (Ch. 13, 6th c., see Roberts and Donaldson, pp. 149–150). The term epact, itself, means "additional, superfluous, left-over, or simply the excess" (Archer, p. 21), and it was arguably coined by Theon of Alexandria (A.D. c. 335–c. 405); see Neugebauer, O. (1975), *A History of Ancient Mathematical Astronomy*, Springer-Verlag, New York, p. 965, who adds that the use of the epact concept in Christian computus is "apparently in direct continuation of a tradition which goes back at least to the time of Theon." Theon had evidently followed Herodotus of Halicarnassus (*c.* 484–*c.* 425 B.C.) in his use of the word ἐπάγω, to intercalate (Liddell and Scott). Because of the relative lengths of the solar year and twelve lunar months, as Richards (p. 361) explains, "the epact increases by 11 days for each succeeding year, but when it comes to exceed 30, 30 is subtracted. There is an exception when we pass from year XIX back to year I [i.e., LC = 16 to 17], for then the epact increases by 12 from 26 to 38, or 8 after subtracting 30." Obviously, the exception noted refers to the *saltus lunae*; the differences of 12 in the *themelios* values of LC = 16 and 17 (as well as the rest of the usual differences of 11 between any other two consecutive LCs) may be verified in *Canonion* B. Nonetheless, instead of 26 and 8, *Canonion* B gives 29 and 11 for LC = 16 and 17, respectively. Similarly, the rest of the *themelios* values in *Canonion* B are found to be three days greater than those computed from the following formula for the epact given by Richards (p. 361): Epact, EP = Mod (11*GN – 3, 30). The introduction of this discrepancy into Vlastares' computations can easily be traced to his having "added three days," in §7.10.1, which he attributes to a periodic correction of the *themelios* values, justified on account of a delay in the astronomical moon, estimated at one day in 304 years (§7.10.5). Interestingly, however, the dates of the *Nomikon Faska* in *Canonion* B are identical to the Paschal Full Moons that are derived on the basis of the presumably *original* epacts, calculated using the preceding formula. Consider,

for example, LC=16, for which TH=29, GN=XIX, EP=26. Thus, the age of the moon on January 1 (strictly, during the night preceding the dawn of January 1, or on December 31, per Katses) is 26. Because in a non-leap year there are exactly 31+28 = 59 days between this date and March 1, the age of the moon is also 26 on March 1 (strictly, the night preceding the dawn of March 1, or on February 28). In leap-years, an extra day is added to the course of the moon, counterbalancing the 29th day of February. See also Vlastares, §7.7.9. Adding 20 to this, one obtains the age (or epact) of the moon on March 21 as 46, i.e., 16 since "a 30-day lunar periodicity [is] assumed" (Steel, D. (2000), *Marking Time: The Epic Quest to Invent the Perfect Calendar*, John Wiley & Sons, Inc., New York, NY, p. 172). Since the full moon is "defined as the 14th day of the month, or, in more modern parlance, the day on which the 'age' of the moon (which starts at zero at the New Moon) is 13 days" (Ross, K.L., http://www.friesian.com/easter.htm, accessed: 3/12/03; see also Richards, p. 360: "A full moon occurs 13 days after its corresponding new moon, counting the day of the new moon as the first day"), this means that 30+13-16=27 days exist from March 21 to the day of the full moon. Therefore, the Paschal Full Moon, PFM, will occur on 21+27=48th day of March, i.e., April 17. The following expression may be used to determine PFM, as a day in March: PFM = Mod (23 – EP, 30) + 21.

264. = the lunar cycle.

265. See §7.9.

266. Stated mathematically, this algorithm is as follows: TH = Mod (LC * 11 + x , 30) = Mod (Mod (Y , 19) * 11 + x, 30), in which TH: *Themelios*; LC: Lunar Cycle; Y: Year in MEC, or Y=A.D.+5508; $x = 3$, if LC ≤ 16, or $x = 4$, if LC > 16. I have checked this formula and it applies to both A.D. 1335, as well as the years in modern-day editions of the liturgical books of the Church of Greece.

267. = duration.

268. See §§7.2.36; 7.5.15. See also §7.17.32.

269. = minutes.

270. See also §§7.2.36; 7.5.15; 7.17.33.

271. 304=19x16. Over 16 cycles, each of 19 solar years, 16 x (3m, 37s) = 57.9m, or approx. 1 day. See also §7.2.37.

272. = falls behind, compared to the corresponding 16 solar cycles, each of 19 solar years.

273. This statement contradicts §7.5.19, where it is indicated that "nothing whatsoever [is] left over as superfluous." The deficiency according to the calculations here is 0.96444 days, i.e., just under one (modern) hour short of a day. This provides a measure of the precision expected by Vlastares, since one hour in 304 years warrants the characterization "most closely" (Gr. ἔγγιστα).

274. See also §§7.2.38; 7.18.51.

275. A.D. 421 = 5929-5508. The significance of this year seems to be simply that it is 304 years prior to the "year of the Fathers," A.D. 725; Vlastares ap-

pears to be engaged in a back-calculation of sorts. I have performed a statistical comparison between the dates of the first astronomical full moon in January, as tabulated by Goldstine, from which I have calculated the astronomical epact on January 1, and the original ecclesiastical epacts as calculated using the equation given by Richards (p. 361; see §7.10.1n), for years near A.D. 31, 325, 725 and 1335. In each case, I have considered three complete 19-year cycles (57 years), as follows: 1 B.C.–A.D. 56, A.D. 304–360, 703–759 and 1311–1367. I have found the average discrepancy of (astronomical-ecclesiastical) epact to be as follows: *c.* A.D. 19 = -0.86 days; *c.* A.D. 323 = +0.15 days; *c.* A.D. 722 = +1.51 days; *c.* A.D. 1330 = +3.46 days. These data suggest that in A.D. 278, "not a day was added;" in A.D. 573, "one [day] was added;" in A.D. 875, "two [days were added];" in A.D. 1188, "three days were added;" and in A.D. 1500, "four days shall be added." Evidently, the data confirm Vlastares' observations regarding the addition of days to the original ecclesiastical epacts, as a way of adjusting the calculation, bringing it in line with the corresponding astronomical events. In contrast, Isaac Monachus Argyros (A.D. 1373; Migne, *PG* 19:1293, as cited by Delempases, p. 432) uses contrived cosmological arguments (contradicting Vlastares) to explain the addition of the three days: "The addition of the three days is implemented for this reason. (For it seems that such an addition may create questions.) The reason is the same here [as previously], that is the ignorance with regard to the beginning of the very first year. For those who articulated these issues at the beginning did not know it exactly, but found the moon in its first cycle on the first of January being in her fullness, that is to say she was 15 days old (and she was also 15 days old when she had been created); and for this reason, [as] three were the days prior to her creation, and 11 the [days] since her preceding conjunction, they adopted the beginning of January as the beginning of the lunar cycles as well, and they added the 3 days so that in every respect the similitude would be preserved to that particular day on which she was created."

276. A.D. 725 = 6233-5508. Also, 5929+304 = 6233.

277. A.D. 1029 = 6537-5508. Also, 6233+304 = 6537.

278. A.D. 1333 = 6841-5508. Also, 6537+304 = 6841.

279. There seems to be an inconsistency between the four days added to the *themelios* after A.D. 1333 mentioned here, and the two days added "recently" to the Paschal full moon referred to in §7.17.44. This incongruity is examined through statistical analyses in §7.10.6n and §7.17.17n, respectively (which corroborate Vlastares' assertions), but its causes remain obscure.

280. The addition of an increased number of days in the calendrical calculation indicates that Vlastares was advocating, or at least conceding to, a periodic adjustment in the determination of the age of the moon. Such an adjustment was part of the Gregorian reform of A.D. 1582, as well. Even without any other adjustment, such an incrementation applied to the Julian calendar today,

would eliminate more than half of the discrepancies in the Eastern and Western dates of Pascha. Vlastares is probably echoing Nicephorus Gregoras (*Byzantine History*, 8th Oration, Chapter 13), who had argued that "this correction used to be applied until the six thousandth three hunderedth year since Adam [A.D. 792]" (see Niebuhr, p. 367), even though Gregoras was referring to a correction related to the Equinox. It is not clear, however, whether either he or Vlastares would be correct in asserting that such an adjustment was implemented to the extent of influencing the actual dates of Holy Pascha. Calculations of Pascha dates both before and after A.D. 1333 do not support such assertions. For his part, Delempases (p. 560) castigates the "Latin-minded" Gregoras, calling his assertion "erroneous" and citing the Festal Letters of St. Cyril of Alexandria, the first of which dates back to A.D. 414. Nonetheless, Grumel, V. (1958), "La Chronologie," in *Traité D'Études Byzantines*, P. Lamerle, Ed., Vol. I, Presses Universitaires de France, Paris, France, pp. 54–55, documents several sources in which the *Themelios* values differ from those presented by Vlastares in *Canonion* B. Notable among these sources are the *Chronicon Paschale* (c. A.D. 626), and the "reform of Constantinople" (A.D. 353), whose *Themelios* values are smaller than Vlastares' by 2 to 4. Despite these differences, however, all sources quote identical dates for the Paschal Full Moon (and consequently for the Holy Pascha), probably evincing reticence to make changes to these dates as well, even in light of more precise astronomical calculations. Delempases (p. 560) argues that these dates had been fixed by the Council of Nicaea, but he does not provide convincing evidence for this claim. See also §7.13.5n.

281. This phrase suggests that this part of the document may have been written prior to 6841 (= A.D. 1333), since in 6843 (= A.D. 1335) three days were still added. The fact implicit in this statement by Vlastares is that when Lunar Cycle, LC > 16, $x = 4$ in the algorithm for the determination of *Themelios*, TH (see §7.10.2n). The computistical explanation for this adjustment is the so-called *saltus lunae* (see also §7.5.20n). Note that the Eastern Lunar Cycle 16 corresponds to the Western Golden Number 19, which explains why in Western computistical works, the *saltus lunae* is said to be inserted at the end of the 19-year cycle. Thus, Richards, p. 355: "In the seventh [and last] embolismic year, the extra lunation is hollow with 29 days [as opposed to full with 30 days]. This exception was known as the 'saltus lunae,' the jump of the moon." Similarly, Newton, p. 31: "The discrepancy [between the 19 solar years and the 235 lunar months] was corrected by simply omitting the last day of the last lunar month in the cycle. Thus the ecclesiastical moon had a jump in its motion, which was called the *saltus lunae*; in earlier tables [than Bede's (A.D. 725), or possibly Dionysius *Exiguus*' (A.D. 526)] of the ecclesiastical moon, the *saltus lunae* occurred at other times."

282. See also §§7.13.4; 7.13a.2; 7.13b.4.

[*7.11*] *Πῶς οἱ τοῦ ἡλίου κύκλοι εὑρίσκονται;*

<1>Ὡσαύτως καὶ ἐπὶ τοῦ ἡλίου, κράτησον ταῖς χερσὶ τὸ τρέχον ἀρτίως ,ϛωμγ′. ἔτος· <2>καὶ ἐπεὶ ὁ εἰκοστὸς ὄγδοος τῶν κύκλων τοῦ ἡλίου ἀριθμὸς ἀναλογεῖ τῷ τε σπ′. καὶ τῷ ,βω′. ἄφελε ἐκ δευτέρου τὸν ,βω′. <3>καὶ τῶν περιλειπομένων ,ασμγ′. αὖθις ἄφελε τετράκις τὸν σπ′. <4>εἶτα τῶν μεινάντων ρκγ′. τετράκις ἀφελόντος σου τὸν κη′, ἀνεξάντλητος μένει ὁ ια′. ὅς ἐστιν ὁ τοῦ ἡλίου κύκλος.

[*7.11α*] *Ἄλλως.*

<1>Ἢ καὶ οὕτω· <2>κράτησον τὰ μικρὰ ἔτη τῆς παρούσης ἑκατονταετηρίδος, ἤτοι τὰ μγ′. <3>πρόσθες καὶ τὰ καταλειφθέντα τῆς παρελθούσης κδ′. <4>καὶ τὰ ὁμοῦ γινόμενα ξζ′. μέρισον ἐπὶ τὰ κη′. <5>καὶ τὰ τούτων ἐλάττονα ια′, ὁ κύκλος ἐστὶ τοῦ ἡλίου.

[*7.11β*] *Ἕτερως.*

<1>Ἀλλὰ γὰρ μηδὲ ταύτην ἀπαξιώσῃς τὴν μέθοδον, καὶ ῥᾷστα τὸν ἐπιζητούμενον κύκλον καὶ ἀμφοτέρων συνήσεις τῶν φώτων. <2>Ὁ ιθ′. κύκλος τῆς σελήνης, καὶ ὁ κη′. κύκλος τοῦ ἡλίου, ἀλλήλοις πολυπλασιαζόμενοι, τὸν φ′. καὶ λβ′. συνάγουσιν ἀριθμόν, <3>ἄλφα τισὶν ὀνομαζόμενον, παρὰ τὸ συνάγεσθαι τὴν αὐτὴν ποσότητα τοῖς ἐξ ὧν τὸ ἄλφα στοιχεῖον σύγκειται· <4>τούτῳ τοίνυν καὶ τὸ πλήρωμα τῶν κύκλων ἀκολούθως συνέρχεται· <5>ὁ μὲν γὰρ εὐθὺς ιθ′. ὁ τῆς σελήνης, ὄγδοος δὲ καὶ εἰκοστὸς ὁ τοῦ ἡλίου γίνεται· <6>οὐκοῦν μέρισον τὰ ἀπὸ κτίσεως κόσμου ἔτη ἐπὶ τὰ φλβ′. οὕτω· <7>δωδεκάκις τὰ πεντακόσια, ἑξακισχίλια· <8>δωδεκάκις τὰ λ′. τριακόσια ἑξήκοντα· <9>δωδεκάκις τὰ δύο, κδ′. <10>ὁμοῦ ,ϛτπδ′. <11>λοιπὰ υξα′. πρὸς τὸ σήμερον τυχὸν ,ϛωμε′. ἔτος· <12>καὶ ἂν μὲν τὸν κύκλον τῆς σελήνης ἐθέλῃς εὑρεῖν, μέρισον τὰ υξα′. ἐπὶ τὰ ιθ′. οὕτως· <13>κ′. τὰ δέκα, σ′· <14>κ′. τὰ θ′. ρπ′· <15>δ′. τὰ ι′. μ′. <16>τετράκις τὰ θ′. λς′. <17>ὁμοῦ υνς′. <18>λοιπὰ ε′. <19>ταῦτα πέφυκεν ὁ τῆς σελήνης κύκλος· <20>ἂν δὲ τοῦ ἡλίου ζητῇς, οὕτως· <21>δεκάκις τὰ κ′. σ′· <22>δεκάκις τὰ η′. π′· <23>ἑξά-

[*7.11*] *How Are the Cycles of the Sun Determined?*[283]

<1>In the same manner also for [the case of] the sun, retain in [your] hands *[81]* the currently running 6843rd year.[284] <2>And because twenty eight, the number of the cycles of the sun, is proportional to both the [number] 280 and to the [number] 2800, subtract twice the [number] 2800,[285] <3>and of the residual 1243 again subtract four times the [number] 280.[286] <4>Then, from the remaining 123, after you subtract four times the [number] 28,[287] the [number] 11 remains unexhausted, which is the cycle of the sun.[288]

[*7.11a*] *In Another Manner.*[289]

<1>Or also in this way. <2>Retain the minor years of the present[290] century, that is to say the 43. <3>Add also the 24 [years] that were left[291] over from the previous [century], <4>and the sum created[292] [of] 67 subdivide by the [number] 28, <5>and the lesser[293] of these 11, is the cycle of the sun.[294]

[*7.11b*] *Alternatively.*[295]

<1>But do not disclaim as unworthy even this method, and you will determine more easily the sought after cycle of both the lights.[296] <2>The 19th cycle of the moon, and the 28th cycle of the sun, multiplied by one another, accumulate the number 500 and 32,[297] <3>which is called among some *alpha*,[298] on account of accumulating the same quantity as [represented by] those [letters] of which the [word for the] letter *alpha* consists.[299] <4>In this [number of 532 years], therefore, the completion of [both] the cycles coincides perpetually. <5>For simultaneously, the 19th [cycle] of the moon and the 28th [cycle] of the sun are completed. <6>Therefore, divide the years since the creation of the world by 532, in this manner: <7>twelve times the 500, 6000; <8>twelve times the 30, **(416)** three hundred [and] sixty; <9>twelve times the two, 24. <10>Together,[300] 6384. <11>The remainder [is] 461[301] from the year that happens [to be] today,[302] 6845. <12>And, on one hand, if you desire to determine the cycle of the moon, divide the 461 by 19, in this manner: <13>20 [times] the 10, 200; <14>20 [times] the 9, 180; <15>4 [times]

κις τὰ κ′. ρκ′· <24>ἑξάκις τὰ η′. μη′. <25>ὁμοῦ υμη′. <26>λοιπὰ ις′. <27>ἃ δὴ πέφυκεν ὁ κύκλος τοῦ ἡλίου.

NOTES:

283. In Migne, the Greek question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

284. 6843-5508 = A.D. 1335.

285. 6843-2x2800 = 1243.

286. 1243-4x280 = 123.

287. 123-4x28 = 11.

288. Stated mathematically, this algorithm is as follows: SC = Mod (Y , 28), in which SC: Solar Cycle; Y: Year in MEC, or Y=A.D.+5508. If the remainder is 0, then SC=28. I have checked this formula and it applies to both A.D. 1335, as well as the years in modern-day editions of the liturgical books of the Church of Greece.

289. Possibly a later addition. Recall that in the case of reckoning the cycle of the moon, the calculation involving the "minor years" had been included in the main body of the explanation, §7.9.5-6.

290. Recall, that the current year is 6843 since the creation, i.e., 6843-5508 = A.D. 1335.

291. 6800/28 = 242, remainder 24.

292. 43+24 = 67.

293. = the remainder.

294. 67/28 = 2, remainder 11. Stated mathematically, this algorithm is as follows: SC = Mod ({Mod (Y , 100) + Mod (100 * Int (Y, 100), 28)}, 28), in which SC: Solar Cycle; Y: Year in MEC, or Y=A.D.+5508. If the remainder is 0, then SC=28. I have checked this formula and it applies to both A.D. 1335, as well as the years in modern-day editions of the liturgical books of the Church of Greece.

295. Possibly a later addition, perhaps dating from two years after the compilation of Vlastares' *Syntagma*. If Vlastares had not been aware of the *alpha* cycle, that might explain that October 1 was not a Sunday but a Monday in the year 1 MEC. See §7.7.3n.

296. =the sun and the moon.

the 10, 40; <16>four times the 9, 36. <17>Together, 456. <18>Remainder 5.[303] <19>These are naturally the cycle of the moon.[304] <20>If you seek on the other hand [the cycle] of the sun, [divide the 461 by 28] in this manner: <21>ten times the 20, 200; <22>ten times the 8, 80; <23>six times the 20, 120; <24>six times the 8, 48. <25>Together, 448. <26>Remainder 13,[305] <27>which are indeed naturally the cycle of the sun.[306]

297. 19x28 = 532.

298. The time period *alpha* starts with a year in which Solar Cycle = Lunar Cycle = 1, e.g., 188 B.C., or A.D. 345, 877, 1409, 1941, etc.

299. Gr. ἄλφα, in which –according to Byzantine alphanumeric representation– α=1, λ=30, φ=500, α=1, or 1+30+500+1 = 532.

300. =Sum.

301. 6845-6384 = 461.

302. Here, the current year is given as 6845 since the creation, i.e., A.D. 1337 = 6845-5508. The calculation is: 6845/532 = 12, remainder 461. Also, 532x12 = 6384.

303. 461/19 = 24, remainder 5.

304. Stated mathematically, this algorithm is as follows: LC =Mod {Mod (Y, 532)}, 19}, in which LC: Lunar Cycle; Y: Year in MEC, or Y=A.D.+5508. If the remainder is 0, then LC=19. I have checked this formula and it applies to both A.D. 1337, as well as the years in modern-day editions of the liturgical books of the Church of Greece.

305. There is an error in the Greek text given by Rhalles and Potles, who state that the remainder is 16. For his part, Migne gives the correct remainder of 13, both in the Greek text and the Latin translation. The calculation is: 461/28= 16, remainder 13.

306. Stated mathematically, this algorithm is as follows: SC =Mod {Mod (Y, 532)}, 28}, in which SC: Solar Cycle; Y: Year in MEC, or Y=A.D.+5508. If the remainder is 0, then SC=28. I have checked this formula and it applies to both A.D. 1337, as well as the years in modern-day editions of the liturgical books of the Church of Greece. The short sentences in this section are uncharacteristic; they serve the purpose of describing the mathematical algorithm succinctly in a step by step manner, but may suggest the intervention of a later scribe, who was more steeped in mathematics than Vlastares had been.

[*7.12*] *Πῶς εὑρίσκεται ἡ ἴνδικτος;*

<1>Οὕτω καὶ ἐπὶ τῆς ἰνδίκτου ποίει· <2>τὰ μὲν ἀπὸ κτίσεως κόσμου ἔτη ἀναλύων ἐπὶ τὰ ιε′. <3>τὰ δὲ μικρά, μετὰ προσθήκης ἐτῶν ε′. μερίζων αὖθις ἐπὶ τὰ ιε′. <4>Εἰ γὰρ καὶ τοῖς τὰ Ἑλλήνων φρονοῦσι Ῥωμαίοις ἐξεύρηται τὸ τῆς ἰνδίκτου καὶ ἐπινεμήσεως ἔθος, <5>διὰ τὸ φανερῶς ἐπὶ τοσούτοις ἐναλλάττειν χρόνοις τὰς τῶν ἀνθρώπων ἡλικίας, <6>ἀλλ᾽ ἔλαθον ἑαυτοὺς τῇ ἀληθείᾳ καὶ οὗτοι συνενεχθέντες, καὶ τοῖς τῷ μεγάλῳ Μωσεῖ ἀναγεγραμμένοις ἀπὸ κτίσεως κόσμου συμφθεγγόμενοι χρόνοις.

NOTES:

307. In Migne, the Greek question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

308. Stated mathematically, this algorithm is as follows: IY =Mod (Y , 15), in which IY: Indiction Number; Y: Year in MEC, or Y=A.D.+5508. If the remainder is 0, then Indiction Year, IY=15. I have checked this formula and it applies to both A.D. 1335, as well as the years in modern-day editions of the liturgical books of the Church of Greece. For A.D. 1335 (6843 MEC), IY=3, i.e., A.D. 1335 was the 3rd year of that particular Indiction.

309. i.e., the years since the beginning of the century concerned, e.g., 43 for the year 6843 MEC (=A.D. 1335).

310. Adding 5 years to the "lesser years," works only for the years 6800-6899 MEC, and for years ±300 therefrom, but would not lead to the correct Indiction for years ±100 or ±200 therefrom, when 15 and 10 would need to be added, respectively. Evidently, Vlastares did not expect his work to be read (and his algorithms to be applied) beyond the year 6899 MEC, i.e., less than 60 years after he composed it! A more general algorithm would be: IY =Mod (Mod (Y, 100) + (15 - 5 * Mod (Int (Y, 100), 3)), 15), in which IY: Indiction Number; Y: Year in MEC, or Y=A.D.+5508.

[*7.12*] *How is the Indiction Determined?*[307]

<1>In this manner, do also with regard to the Indiction. <2>On the one hand, [you may] separate the years since the creation of the world into 15 [parts].[308] <3>On the other hand, the minor years,[309] upon addition of 5 years,[310] [you may] divide again by 15.[311] <4>For among the Romans, even though they believe the [doctrines] of the [pagan] Greeks, is encountered the custom of the Indiction and redistribution,[312] <5>on account of the fact that after these many years the ages[313] of humans change clearly. <6>But [even though] they[314] deceived themselves with regard to the truth, they also expediently concur with what is written [in the works] by the great Moses, also referring to [these as] the years since the creation of the world.[315]

311. Stated mathematically, this algorithm is as follows: IY =Mod ({ Mod (Y, 100) + 5}, 15), in which IY: Indiction Year; Y: Year in MEC, or Y=A.D.+5508. If the remainder is 0, then Indiction Year, IY=15. I have checked this formula and it applies to both A.D. 1335, as well as the years 6800-6899 MEC (see previous §7.12.3n). For A.D. 1335 (6843 MEC), the minor years are 43, to which 5 is added, making 48, which divided by 15, leaves remainder of 3, i.e., A.D. 1335 was the 3rd year of that particular indiction. Vlastares is referring to the Greek or Constantinopolitan Indiction, which started on the 1st of September. It was introduced by St Constantine the Great on September 1, A.D. 312, and ceased to be used in 1806, when Napoléon Bonaparte formally abolished the Holy Roman Empire. Thus, the first year of the first Indiction was 9/1/312-8/31/313. It so happens, however, that the year 5820 MEC (=A.D. 312), leaves no remainder when divided by 15; consequently the period 9/1/312-8/31/313 may also be considered as the first year of the 388th Indiction since the creation of the world (see the computistical work of St Andrew of Crete, in Migne, *PG* 19:1329). Constantine, however, may not have invented the Indiction, since a 15-year fiscal cycle had already been introduced after Diocletian's reconquest of Egypt in A.D. 297. Possibly a variant of the Constantinopolitan is the Indiction of Constantine

or Bedan Indiction, which started on September 24 and seems to have been introduced by the Venerable Bede. The Imperial or Caesarean Indiction, so called because it honored the birth date of Augustus Caesar, started on September 23. Another point of departure for the Indictions may be 5461 MEC (or 48 B.C.), which also leaves no remainder when divided by 15, giving rise to the Julian Indiction. The Roman or Pontifical or Papal Indiction started on December 25 or January 1 or March 25, each marking the beginning of the year at different times and in various places. September 29 (the date of Michaelmas, a Western festival in honor of the Archangel Michael), was also used occasionally. The calculation of the Indiction year has no astronomical significance or bearing on the determination of the Paschal date. See Tondering, §2.11; Newton, p. 516; O'Neil, p. 9; Delempases, pp. 416–417; Steel, pp. 132–134; Ginzel, F.K. (1914), *Handbuch der Mathematischen und Technischen Chronologie*, Vol. 3, J.C. Heinrichs'sche Buchhandlung, Leipzig, Germany, pp. 148–155.

312. =taxation. According to Aveni, p. 129: "Indiction was a period relating to the imposition of taxes, specifically those to be paid troops upon being discharged from the army after 15 years, the maximum length of service [Constantine the Great] permitted; this led to the general practice of keeping monetary accounts on a 15-year cycle." According to Finegan, p. 406: "the name [of the 15-year cycle] comes from ἰνδικτίων/*indictio*, meaning 'declaration' and 'announcement' of the time of compulsory delivery of foodstuffs to the government, an obligation which under Diocletian [r. A.D. 284–305] became basic to the Roman fiscal system; indictions were included in the Easter Table of Dionysius Exiguus." According to Wilson, P.W. (1937), *The Romance of the Calendar*, W.W. Norton & Co., Inc., New York, NY, p. 86: "The origin of the Indiction is not precisely ascertained but the word signifies an assessment of taxes which, under Diocletian (A.D. 245–313) was quinquennial. Three such assessments thus made up the Indiction."

313. =stature, growth. In his hymnographical works, Vlastares elaborates on his views concerning the ages of man, which he considers to be seven, each consisting of seven years, and to correspond symbolically to the seven days of creation. In this, Vlastares follows a tradition going back to Solon (d. 559 B.C.), the Athenian lawgiver. See Paschos, P.B. (1978), *Ὁ Ματθαῖος Βλάσταρης καὶ τὸ Ὑμνογραφικὸν Ἔργον του*, (=Matthew Vlastares and his Hymnographic Work), in Greek, Idryma Meleton Chersonesou tou Aimou No. 183, Thessalonike, Greece, pp. 182, 269. Nonetheless, the connection of the Indiction with the ages of man is probably Vlastares' own interpretation. Cf. Steel (p. 133): "Lasting in all for a decade and a half, a third of the working lifetime nowadays and a larger proportion in the past, [the indiction] allowed for forward planning with confident expectation of what economic cut the government would expect from your profits. In my view the few-year parliamentary terms of modern democracies with tax laws altered willy-nilly provide a great discouragement to entre-

preneurs, regardless of the actual tax rates. With the indiction, people knew where they stood."

314. =the Romans.

315. Vlastares' assertion that the pagan Romans agree, albeit unwittingly, with the Biblical account of the history of the creation of the world, is motivated by the observation that the beginning year of the (pagan) Roman indictional cycle (312 A.D.) is also Year 1 of the 389th Indiction since the creation of the world, on September 1, 5509 B.C., per the (Christian) MEC (see also §7.4.6n). Prior Byzantine authors to make the same assertion include Michael Psellus (c. 1017–1096), who noted "with amazement how the [ancient] Romans, being Hellenophiles but not agreeing that the world had a beginning, were nevertheless swayed by the truth [of the ancient Greek writers] into embracing the Mosaic truth" in their selection of the beginning year for their indictional system. See Redl, G. (1930), "La Chronologie appliquée de Michel Psellos," Byzantion 5, p. 256).

[*7.13*] *Πῶς τὸ νόμικον εὑρίσκεται πάσχα;*

<1>Ἀλλὰ καὶ ἐπὶ τὴν εὕρεσιν ἤδη τοῦ νομικοῦ ἴωμεν πάσχα· <2>Ἐνδεκαπλασίασον τὸν τηνικαῦτα διϊππεύοντα τῆς σελήνης κύκλον, προστίθει τούτοις ἡμέρας ἕξ, <3>τὰς συνισταμένας ἐκ τοῦ εἰρημένου λεπτοῦ ἑνὸς καὶ ἡμίσεως καὶ τρίτου, ἅπερ κατ᾽ ἐπέκεινα τῶν κθ′. καὶ ἡμισείας ἡμερῶν ἔχων δέδεικται ὁ τῆς σελήνης μηνιαῖος κύκλος· <4>ἀπὸ δὲ τοῦ ιζ′. κύκλου μέχρι τοῦ ιθ′. ἡμέρας προσθήσεις ἑπτά· <5>πλείων γὰρ ἡ ἐκείνων ποσότης ἐν τούτοις συνάγεται· <6>καὶ ἑνώσας ἁπάσας, ἔκβαλε τὰς τριακοντάδας καὶ τὰ περιλειφθέντα ἥττονα τῶν λ′. κάτασχε μόνα· <7>καὶ τούτοις προστίθει τὰς τοῦ Μαρτίου ἡμέρας, μέχρις ἂν εἰς τὸν ν′. ἔλθῃς ἀριθμόν· <8>εἰ δὲ οὐκ ἀρκέσουσιν αἱ τοῦ Μαρτίου πᾶσαι, πρόσθες καὶ ἐπὶ τοῦ Ἀπριλίου, <9>καὶ κατ᾽ ἐκείνην τὴν ποστὴν τοῦ μηνός, ἥτις ἀνεπλήρωσε τὸν πεντηκοστὸν ἀριθμόν, ἴσθι τὸ νομικὸν γινόμενον πάσχα.

[*7.13α*] *Ἄλλως.*

<1>Εἰ δὲ δοκεῖ σοι καὶ ἑτέρως, προστίθει τῷ ἐν τῇ α′. τοῦ Ἰανουαρίου εὑρεθέντι θεμελίῳ τῆς σελήνης ἐπακτὰς γ′. <2>τῆς δὲ σελήνης εἰς τὸν ιζ′. ἀφιγμένης κύκλον, καὶ ἀνιούσης μέχρι τῶν ιθ′, τέσσαρας ἐπακτὰς τῷ θεμελίῳ προστίθει· <3>καὶ ἐὰν πλέον τῶν λ′. ὁ ἀριθμὸς γένηται, ὕφελε τὰ λ′. <4>καὶ τοῖς περιλειφθεῖσι προστίθει ἀπὸ τῆς α′. τοῦ Μαρτίου, μέχρις ἂν ὁ ν′. ἀριθμὸς πληρωθῇ· <5>εἰ δὲ τοῦ Μαρτίου πᾶσαι οὐκ ἀνεπλήρωσαν τὸν ν′, πρόσθες τὰς λοιπὰς ἀπὸ τοῦ Ἀπριλίου, <6>καὶ κατ᾽ ἐκείνην τὴν ποστὴν τοῦ μηνός, ἥτις ἀνεπλήρωσε τὸν ν′, τελούμενον γίνωσκε πάσχα τοῦ νόμου.

[*7.13β*] *Ἄλλως.*

<1>Εἰ δὲ βούλει, καὶ οὕτω· <2>κράτησον τὸν ἐν τῇ α′. τοῦ Ἰανουαρίου μηνὸς εὑρεθέντα τῆς σελήνης θεμέλιον· <3>τούτῳ προστίθει ἐκ τῶν τοῦ Μαρτίου ἡμερῶν, ἕως ἂν γένωνται ἡμέραι μζ′, ἢ ἐκείνων μόνων μὴ ἐξαρκουσῶν, προστίθει καὶ ἀπὸ τῶν τοῦ Ἀπριλίου· <4>πλὴν τὸν

[*7.13*] *How is the* Nomikon *Pascha Determined?*[316]

<1>And so we have already[317] come upon the determination of the *Nomikon* Pascha. <2>Multiply by 11 the currently galloping cycle of the moon, add to these six days,[318] <3>which are constituted by the said[319] one minute and a third and a half, and which [days] the monthly cycle of the moon has been shown[320] to have in excess of the 29 days and a half.[321] <4>And from the 17th cycle to the 19th,[322] you shall add 7 days;[323] *[84]* <5>for the quantity of those [excess minutes] accumulates more during these [cycles].[324] <6>And having combined all [these days], remove the thirties, and retain alone the remaining [amount] lesser than 30.[325] <7>And to these [remaining days] add the days of March, until you come upon the number 50. <8>And if all of [the days] of March do not suffice, add also from [those in] April, <9>and upon the particular [day] of the month, which [day] has completed the 50th number, you shall know that the *Nomikon* Pascha is celebrated.[326]

[*7.13a*] *In Another Manner.*

<1>And if it seems good to you [to determine the *Nomikon* Pascha] in another way as well, (417)upon the *themelios* of the moon that has been found on the 1st of January add three epacts;[327] <2>and when the moon arrives upon the 17th cycle, and is rising up to the 19th,[328] add four[329] epacts to the *themelios.* <3>And if the number becomes greater than the 30, subtract the 30. <4>And to the remaining [amount] add from the 1st of March, until the number 50 may be fulfilled. <5>And if all [the days] of March did not complete the [number] 50, add the remainder from April, <6>and upon that particular day of the month, which completed the [number] 50, know that the Pascha of the Law[330] is celebrated.[331]

[*7.13b*] *In Another Manner.*

<1>And if you wish, [determine the *Nomikon* Pascha] also in this manner: <2>Hold the moon's *themelios* that has been found on the 1st of the month of January.[332] <3>To this add from the days of March, until the days become 47,[333] or if those alone do not suffice, add also

ιζ′. κύκλον τῆς σελήνης θεούσης, μέχρι τοῦ ἐννεακαιδεκάτου, ἡμέρας ἀρίθμει μη′. <5>κἀκεῖ τὸ νομικὸν τελούμενον γίνωσκε πάσχα· <6>πλέον δὲ τῶν εἴκοσι καὶ ἓξ ἡμερῶν ἔχοντος τοῦ θεμελίου τῆς σελήνης, μὴ λάμβανε τὰς τοῦ Μαρτίου πάσας ἡμέρας, ἀλλὰ μίαν μόνην· <7>ἐκ δὲ τοῦ Ἀπριλίου ἀναπλήρωσον τὰς μζ′. ἡμέρας.

<8>Δεῖ δέ σε καὶ τοῦτο εἰδέναι, ὡς ἡ κατὰ τὸ νομικὸν πάσχα κυρίως πανσέληνος ἐν τῷ με′. εὑρίσκεται ἀριθμῷ, οὕτω γὰρ ἀναπληροῦται εἷς καὶ ἥμισυς σεληνιακὸς μήν. <9>Ὡσαύτως καὶ ἐπὶ τῶν ῥηθεισῶν ἑτέρων μεθόδων, αἳ συνάγουσι τὸν ν′, οὐκ ἐπὶ τούτου, ἀλλ᾽ ἐπὶ τοῦ μη′. ἀριθμοῦ ἡ σελήνη φθίνειν ὑπάρχεται· <10>ἡ δὲ ἀνωμαλία ταύτης, ὡς εἴρηται, καὶ τὰς ἑτέρας δύο προστέθεικεν ἡμέρας· <11>καὶ ἐνταῦθα μὲν τὸν μζ′. συνάγουσιν ἀριθμόν, ἐκεῖ δὲ τὸν ν′.

<12>{Ἄλλως, εἰ μὲν ἐν τῷ Μαρτίῳ τὸ ἐνεστὼς εὑρίσκεται τῶν Ἰουδαίων πάσχα, προσθετέον ἡμέρας ιθ′, κἀκεῖ τὸ ἐπιὸν εὑρεθήσεται· <13>εἰ δὲ ἐν τῷ Ἀπριλίῳ τὸ ἐνεστώς, ὑφαιρετέον ἡμέρας ἕνδεκα, κἀκεῖ τὸ ἐρχόμενον ἔσται· <14>ἐπὶ δὲ τοῦ ἐκκαιδεκάτου μόνου κύκλου, δώδεκα ἀφαιρετέον, <15>καὶ τὸ ἐπιὸν εὐθὺς ἔσται δῆλον.}

NOTES:

316. See also §7.16, as well as *Canonion* B. In Migne, the Greek question mark, ";", is replaced by a period, ".", in both the Greek and Latin texts.

317. Alternatively, now, presently.

318. In the computistical work of St Andrew of Crete (see Migne, *PG* 19:1329), these six additional days are referred to as "ἀπ᾽ αἰώνων" in Greek, or *"a seculis"* in Latin, i.e., "from the ages."

319. See §7.5.9. See also §7.10.4-5, where it is shown that there is an overflow of one day every 304 years.

from the [days of] of April.[334] <4>Yet, when the moon is observing the 17th cycle, up to the 19th,[335] count 48 days.[336] <5>And there know that the *Nomikon* Pascha is celebrated.[337] <6>And when the *themelios* of the moon has more than 26 days,[338] do not obtain all of the days of March, but only one; <7>and complete the 47 days from those in April.[339]

<8>You should also know this, that the full moon [occurring] dominantly[340] at the *Nomikon* Pascha is determined upon the number 45,[341] for in this manner is completed one and a half lunar month.[342] <9>Similarly, also in the case of the aforementioned other methods, which accumulate the [number] 50, not upon it but upon the number 48[343] does the moon begin to wane. <10>And her[344] anomaly,[345] as has been said,[346] has added the two extra days, as well.[347] <11>And in [this case] here[348] they accumulate the number 47, and [in that case] there[349] [they accumulate] the [number] 50.

<12>{In another manner, if then the current Pascha of the Jews is found in [the month of] March, let 19 days be added; and there the next one shall be found. <13>And if the current [Pascha of the Jews] is [found] in [the month of] April, let eleven days be subtracted; and there shall be the coming [one]. <14>And only [when the moon is currently] upon the sixteenth cycle,[350] let twelve [days] be subtracted [in calculating the Pascha of the Jews for the 17th Lunar Cycle]; <15>and immediately the following [Pascha of the Jews] shall become obvious.}[351]

320. Presumably by Ptolemy, yet I have not located this "one minute and a third and a half" explicitly in the *Almagest*. Vlastares himself shows (see §7.10.9) that three of these six days are accounted for by the accumulation of the anomaly in the movement of the moon (conversely, by the accumulating error in the ecclesiastical prediction of the age of the moon on January 1). The source of the other three days is not apparent. As indicated below (§7.13b.8n), the original calculation probably involved the sum of 44, suggesting that the addition of six days here may be an expedient way to make subtraction easier,

by replacing 44 (or 47, per §7.13b.3) with the round number 50.

321. In the Latin translation, Migne has 28 instead of 29 and a half.

322. See also §§7.10.11; 7.13a.2; 7.13b.4.

323. The increment from six to seven days is due to the *saltus lunae*, applied at the end of Lunar Cycle 16. See §§7.5.20n; 7.10.11n.

324. This explanation is rather cryptic and probably contrived, and casts doubts on Vlastares' awareness of the idea of the *saltus lunae*.

325. i.e., divide by 30 and retain the remainder.

326. Consider, for example, Lunar Cycle, LC=3. Then, 3x11=33; 33+6=39; 39-30=9; 9+31=40; 50-40=10. Therefore, the *Nomikon* Pascha is April 10. Stated mathematically, this algorithm is as follows: NP = 50 - Mod (LC * 11 + *y* , 30) = Mod (Mod (Y , 19) * 11 + *y*, 30), in which NP: *Nomikon* Pascha, as a day in March (thus, 32 means April 1); LC: Lunar Cycle; Y: Year in MEC, or Y=A.D.+5508; $y = 6$, if LC ≤ 16, or $y = 7$, if LC > 16. I have checked this formula and it applies to both A.D. 1335, as well as the years in modern-day editions of the liturgical books of the Church of Greece.

327. As used here, an "epact" is simply an additional day (see also §§7.13a.1, 2; 7.14.5). As noted above (see §7.13.3n), the source of these three additional days is unclear, and could be related to an effort to make calculations easier by introducing the round number 50 (see §7.13a.4).

328. See also §§7.10.11; 7.13.4; 7.13b.4.

329. The increment from three to four days corresponds to that from six to seven in §7.13.4, and both are due to the *saltus lunae*, applied at the end of Lunar Cycle 16. See §§7.5.20n; 7.10.11n.

330. =the Mosaic Law.

331. Consider, for example, Lunar Cycle, LC = 3. Then, *Themelios* = Mod (LC * 11 + 3, 30) = 6 (see §7.10); 6+3 = 9; Mod (9, 30) = 9; 9+31 = 40; 50-40 = 10. Therefore, the *Nomikon* Pascha is April 10. Stated mathematically, this algorithm is as follows: NP = 50 - Mod (TH + *x* , 30) = Mod (LC * 11 + *2x* , 30) = Mod (Mod (Y , 19) * 11 + 2*x*, 30), in which NP: *Nomikon* Pascha (date in March); TH: *Themelios*; LC: Lunar Cycle; Y: Year in MEC, or Y=A.D.+5508; $x = 3$, if LC ≤ 16, or $x = 4$, if LC > 16. I have checked this formula and it applies to both A.D. 1335, as well as the years in those modern-day editions of the liturgical books of the Church of Greece that retain this definition of the *Nomikon Faska*, and have not replaced it by algorithms reflecting modern-day Jewish reckoning.

332. Recall that the age of the moon (*themelios*) on January 1 is the same as the age of the moon on March 1 (see §7.7.10n; Delempases, p. 430, who cites *Μεγάλη Ἑλληνικὴ Ἐγκυκλοπαιδεία*, Vol. 19, "Πάσχα," p. 774 (Pyrsos Co., Ltd.: Athens, Greece). From a cursory analysis of samples of astronomical data tabulated by Goldstine, consisting of 19 years each around A.D. 31, 325, 725 and 1335, I found that in 27 cases (36%) this equality was not true, and among these exceptions, the new moon in March occurred earlier than the corresponding

date in January in 21 years (78%). The discrepancy was ±1 day. The *themelios*, TH, values referred to here are those obtained using the methods of §7.10, and listed in *Canonion* B. As noted earlier, these values are greater by 3 compared to the corresponding *original* epacts, EP (see §7.10.1n).

333. As noted below (see §7.13b.8n), this number was originally 44, and has been adjusted to 47 in order to account for the three days added to the epact, EP, to produce the *themelios*, TH (see §7.10.9).

334. With regard to LC = 17, 18, and 19, this calculation assumes the *themelios* values of 11, 22, and 3, respectively, as given by Vlastares in *Canonion* B. Recall that these three values are obtained by the addition of 4, rather than 3 days (see §7.10.9), presumably on account of the *saltus lunae*. Cf. §7.13b.4n.

335. See also §§7.10.11; 7.13.4; 7.13a.2.

336. This exception clause assumes *themelios* values of 10, 21, and 2 for LC =17, 18, and 19, respectively, as given, for example, in the *Canonion* of St John of Damascus (Migne, *PG* 95:239-242; see also endnote u of *Canonion* B). These values are reduced by 1 compared to those presented by Vlastares in *Canonion* B, and are obtained by the addition of 3 rather than 4 days (cf. §7.10.11), presumably ignoring the *saltus lunae*. Since the *themelios* is reduced by one, the sum sought must be increased by one, from 47 to 48. See §§7.5.20n; 7.10.11n. The inconsistency with §7.13b.3 may be indicative of poor editing by Vlastares of conflicting pre-existing *Canonia*, or the intervention of subsequent scribes.

337. Stated mathematically, this algorithm is as follows (applies for TH ≤ 26): NP = z - TH = z - Mod (LC * 11 + x , 30), in which NP: *Nomikon* Pascha (date in March); TH: *Themelios*; LC: Lunar Cycle; z = 47, if LC ≤ 16, or z = 48, if LC > 16; x = 3, if LC ≤ 16, or x = 4, if LC > 16. I have checked this formula and it applies to both A.D. 1335, as well as the years in those modern-day editions of the liturgical books of the Church of Greece that retain this definition of the *Nomikon Faska*, and have not replaced it by algorithms reflecting modern-day Jewish reckoning.

338. Recall that there is a one-to-one correspondence between the Lunar Cycle, LC, and the *themelios* of the moon (see *Canonion* B, below). Consequently, this stipulation applies to LC=5 (*themelios*=28) and LC=16 (*themelios*=29), but not to LC=13 (*themelios*=26) (cf. §7.15.7, where the algorithm seems inclusive of *themelios*=26). This exception clause corresponds to that given by Richards (p. 362), according to which the sum for GN = 8, 11, and 19 is equal to 74, rather than 44 (see §7.13b.8n). These GN values denote LC = 5, 8, and 16, for which TH = 28, 1, and 29. Since TH for LC = 8 is already more than 30 (i.e., 1 or 31), this year is no longer in need of the adjustment introduced with this exclusion clause, whose purpose is to preclude the occurrence of the *Nomikon* Pascha prior to March 21.

339. Consider, for example, Lunar Cycle, LC=3. Then, *Themelios*=6; 6+31=37; 47-37=10. Therefore, the *Nomikon* Pascha is April 10. In contrast,

consider LC=5. Then, *Themelios*=28; 28+1=29; 47-29=18. Therefore, the *Nomikon* Pascha is April 18. Adding "only one of the days of March" means ignoring the full moon that would occur prior to March 21 (47-26=21) and proceeding to the next one, also accounting for the fact that March has 31 days (as opposed to the assumed lunation of 30 days). Note that in this case there is no reason to account for the *saltus lunae* since TH >26 does not occur when LC > 16. Stated mathematically, this algorithm is as follows (applies for TH > 26): NPA = 46 - TH = 46 - Mod (LC * 11 + 3, 30), in which NPA: *Nomikon* Pascha (date in April); TH: *Themelios*; LC: Lunar Cycle. I have checked this formula and it applies to both A.D. 1335, as well as the years in those modern-day editions of the liturgical books of the Church of Greece that retain this definition of the *Nomikon Faska*, and have not replaced it by algorithms reflecting modern-day Jewish reckoning.

340. =astronomically. The statements that follow (§7.13b.8-11) shed considerable light on the rather convoluted calculations described in §§7.13; 7.13a and 7.13b. Evidently, these calculations were originally based on the epacts, EP, determined using the expression given by Richards (p. 361): Epact, EP = Mod (11*GN – 3, 30). See §7.10.1n. These epacts appear to have been the original ecclesiastical age of the moon on December 31/January 1, and I found them in reasonable agreement with the astronomical values *c.* A.D. 278 (see §7.10.6n). Consequently, the term "dominantly" may also mean originally, ecclesiastically, properly, before the anomaly introduced by the passage of the centuries, etc.

341. In accordance with the expression provided in §7.10.1n (i.e., PFM = Mod ({23 – EP}, 30) + 21), the sum should be 23 + 21 = 44, not 45. See also Dionysius *Exiguus*, as cited by Richards, p. 362, who indicates that Epact, EP + PFM (day in March) = 44, except in years with GN = 8, 11, and 19 (i.e., LC = 5, 8, 16), when the sum equals 74, instead. It is not apparent why Vlastares gives the sum as 45, here. Moreover, there seems to be an inconsistency between the two days subtracted here (47 – 45 = 2) and the three days added in §§7.10.1, 3.

342. 29.5x1.5 = 44.25 ≈45. The explanation that "in this manner is completed one and a half lunar month" would support 44 more than 45.

343. It is not apparent why Vlastares gives the sum as 48, here, instead of 47. Moreover, there seems to be an inconsistency between the two days subtracted here (50 – 48 = 2) and the three days added in §7.13a.1.

344. =the moon's.

345. See also §§7.2.34, 40; 7.3.18; 7.17.21, 29; 7.18.48.

346. See §§7.2.33, 38. See also §7.17.44. There is an inconsistency between the "two extra days" mentioned here and the "three [days ... added]" mentioned in §7.10.9.

347. This is another reference to a calendrical adjustment. Vlastares is willing to adjust the "formula" of computation so that the predicted moon corresponds to the astronomical moon more precisely.

348. See §§7.13b.3, 7.

349. See §§7.13.7; 7.13a.4; 7.15.5.

350. For Lunar Cycle, LC=16, the *Nomikon* Pascha is on April 17 (see *Canonion* B). The increment from 11 to 12 days is due to the *saltus lunae*, applied at the end of Lunar Cycle 16.

351. This segment (§7.13b.12-15) is only given in a footnote by Rhalles and Potles, where it is identified as belonging to Manuscript Γ (A.D. 1683). It is repeated in §7.15a.3-6, which only appears in the text by Migne. Stated mathematically, this algorithm is as follows: $NP_{i+1} = NP_i + 19$; or $NPA_{i+1} = NPA_i - w$, in which NP: *Nomikon* Pascha (date in March); NPA: *Nomikon* Pascha (date in April); $w = 11$, if LC ≠ 16, or $w = 12$, if LC = 16; i: index denoting consecutive years. I have checked this formula and it applies to both A.D. 1335, as well as the years in those modern-day editions of the liturgical books of the Church of Greece that retain this definition of the *Nomikon Faska*, and have not replaced it by algorithms reflecting modern-day Jewish reckoning.

[*7.14*] *Ὅπως τὸ Χριστιανικὸν εὑρίσκεται πάσχα.*

<1>Καὶ οὕτω μὲν ἡ ἐν τῷ νομικῷ πάσχα ποστὴ τοῦ μηνὸς ἡμέρα εὑρίσκεται. <2>Δεῖ δέ σε εἰδέναι καὶ ποία ταῦτῃ συνέρχεται τῆς ἑβδομάδος ἡμέρα, ὡς ἂν ἐκεῖθεν ἐπὶ τὴν κυριακὴν ἐρχόμενος, <3>καὶ τὴν ἐν αὐτῇ τοῦ μηνὸς αὖθις καταλαμβάνων ποστήν, ἐκεῖ τὸ Χριστιανικὸν τελούμενον πάσχα γινώσκῃς. [4]Κράτησον οὖν τὸν κύκλον τοῦ ἡλίου· <5>προστίθει τούτῳ τὰς λεγομένας ἐπακτάς, ἤτοι κατὰ δ′. χρόνους μίαν, αἵτινές εἰσι τοῦ βισέκτου· <6>εἶτα τὰς ἕνδεκα τοῦ τετραμήνου, ἤγουν ἀπὸ τοῦ Ὀκτωβρίου μέχρι τοῦ Ἰανουαρίου, ἀπὸ τοῦ ἔχοντος μηνὸς ἡμέρας λ′, δύο λαμβάνων, τρεῖς δὲ ἀπὸ τοῦ ἔχοντος λα′. <7>Ἀπὸ δὲ τοῦ Φεβρουαρίου μὴ λάμβανε, διὰ τὸ ἐσχάτως αὐτὸν κεκολοβῶσθαι. <8>Καὶ εἰ μὲν ἐν τῷ Μαρτίῳ εὑρίσκεται τὸ πάσχα τὸ νομικόν, λάβε καὶ τὰς μέχρι τοῦ πάσχα τούτου ἡμέρας· <9>εἰ δὲ ἐν τῷ Ἀπριλίῳ, λάβε καὶ ἀπὸ τοῦ Μαρτίου μόνας τρεῖς, καὶ τὰς τοῦ Ἀπριλίου, ὅσαι μέχρι τοῦ πάσχα εὑρίσκονται, <10>καὶ ἑνώσας ἁπάσας, ἀνάλυσον ἐπὶ τὰ ζ′, καὶ εἰ μὲν μία περιλειφθείῃ ἡμέρα, ὑπάρχει κυριακή, καὶ δεῖ σε προσμένειν τὴν ἐρχομένην· <11>εἰ δὲ δύο, δευτέρα· <12>εἰ δὲ τρεῖς, τρίτη, καὶ ἑξῆς μέχρι τῶν ἑπτά. <13>Καὶ ἀφ᾽ ἑκάστης, ἐπὶ τὴν κυριακὴν ἀπαντᾷν, καὶ ἐν ἐκείνῃ τῇ ἡμέρᾳ τοῦ μηνός, ἐφ᾽ ἣν ἡ κυριακὴ εὑρίσκεται, λέγε τὸ Χριστιανικὸν εἶναι Πάσχα.

NOTES:

352. See also §7.17. Beginning with this section, each header is cast as a statement rather than as a question in both Rhalles and Potles, as well as Migne; similarly, for all subsequent sections to end of the Chapter.

353. This is yet another calculation of the day of the week, similar to those discussed in §§7.6.4; 7.7.7; 7.8.6. "Hold [i.e., add] the cycle of the sun" implicitly

[*7.14*] *The Manner In Which the Christian Pascha is Found.*[352]

<1>And in this manner then, on the one hand, the particular date of the month **(418)** is found on which the *Nomikon* Pascha [occurs]. <2>On the other hand, you also need to know on which day of the week this falls, so that you may from there coming upon the Sunday, <3>and seizing again the particular date of the month on which this [falls], there you shall know that the Christian Pascha is celebrated. <4>Hold then the cycle of the sun;[353] <5>to this add the so-called epacts,[354] that is to say one [day for every year] in the four year [cycle], which are [on account] of the leap year.[355] <6>Subsequently, [add] the eleven [days] of the four-month [period],[356] specifically from October to January, taking two [days] from the month that has 30 days[357] and three from [each] one that has 31.[358] <7>Yet, do not take [any days] from February, since this is already exceedingly truncated.[359] <8>And if, on the one hand, the *Nomikon* *[85]* Pascha is found in the [month of] March, take also the days until this Pascha. <9>And if, on the other hand, [the *Nomikon* Pascha is found] in the [month of] April, take from March also three days only,[360] as well as those of April, as many as are found until the [*Nomikon*] Pascha; <10>and summing up all [these days], analyze into sevens,[361] and if remaining is one day, [the *Nomikon* Pascha] will be [on a] Sunday, and you should wait [until] the subsequent one.[362] <11>And if [remaining are] two [days], [the *Nomikon* Pascha will be on a] Monday; <12>and if [remaining are] three [days], [the *Nomikon* Pascha will be on a] Tuesday; and so forth until the seven.[363] <13>And from each [of these], [you] must come upon the Sunday, and on that day of the month, upon which the Sunday is found, you must announce that the Christian Pascha is [celebrated].

recognizes that October 1 of Lunar Cycle 1 is a Monday, not a Sunday. See also §§7.6.3n; 7.8.6n.

354. As used here, an "epact" is simply an additional day (see also §§7.13a.1, 2).

355. Recall from §7.6.3n: OD = SC + Int (SC / 4), in which OD: oveflowing days; SC: Solar Cycle; Int: Integer function.

356. Recall the preceding day of the week discussions, §§7.6.4; 7.8.6; 7.7.7.

357. i.e., from November.

358. i.e., from October, December and January; thus, 2x1+3x3 = 11.

359. The real reason is that since Vlastares has already taken leap-days into account, he can treat February as if it always has 28 days (see §7.2.21n) and 28/7 = 4, with no Remainder.

360. Since March has 31 days, subtracting 28 days that constitute four full weeks leaves three days to be considered in this day-of-the-week calculation.

361. i.e., divide by seven.

362. =the subsequent Sunday. See also §§7.4.9.

363. Stated mathematically, this algorithm is as follows: NPD = Mod (SC + Int (SC / 4) + 11 + NP , 7), in which NPD: *Nomikon* Pascha Day of the week (NPD = 1 for Sunday; =2 for Monday; …; = 7 for Saturday); SC: Solar Cycle; NP: *Nomikon* Pascha (date in March). Assume that 3/32 = 4/1, etc., for dates in April.

[*7.15*] *Ὅπως εὑρίσκεται ἡ ἀπόκρεως.*

<1>Μετὰ δὲ τὸ εὑρεῖν τὴν ἡμέραν τοῦ μηνός, καθ᾽ ἣν τὸ τῶν Χριστιανῶν πάσχα γίνεται, προστίθει ταύτῃ τρεῖς ἡμέρας ἑτέρας, τέσσαρας δέ, εἰ ὁ χρόνος βίσεκτος εἴη, <2>καὶ ἑνώσας ἁπάσας, εἰ μὲν ὁ ἀριθμὸς τούτων εἰς τὸν Μάρτιον πίπτει, ζήτει τὴν ἀπόκρεω ἐν τῇ ἰσαρίθμῳ τοῦ Ἰανουαρίου ἡμέρᾳ· <3>εἰ δὲ ἐκεῖνος ἐν τῷ Ἀπριλίῳ εὑρίσκεται, σκόπει ταύτην ἐν τῷ Φεβρουαρίῳ. <4>Σκόπει δὲ καὶ οὕτω· <5>τὸν ἐνιστάμενον τῆς σελήνης θεμέλιον ἄχρι καὶ πεντηκοντάδος ἐκτενεῖς, προσεπιβάλλων αὐτῷ τὰς ἀπὸ τῆς πρώτης τοῦ Ἰανουαρίου καὶ πρόσω ἡμέρας, <6>καὶ τοῦ ν′. τελευτήσαντος ἀριθμοῦ εἰς οἱανδήποτε ἑβομάδος ἡμέραν, τῇ ἑξῆς κυριακῇ τὴν ἀπόκρεω βεβαίως ἐπιτέλει· <7>ἀλλὰ τῆς σελήνης εἰς τὸν κς′. καὶ περαιτέρω θεμέλιον προϊούσης, μίαν μόνον ἐκ τοῦ Ἰανουαρίου λήψῃ, τὰς δέ γε λοιπὰς ἐκ τοῦ Φεβρουαρίου· <8>οὕτω δὲ τὴν ἀπόκρεω, ᾗ πίπτει, γνωρίσεις· <9>εἰ μὲν εἰς τὸν Ἰανουάριον, τὸ πάσχα πάντως ἔσται τὸν Μάρτιον, (τὸ τῶν Χριστιανῶν φημί)· <10>εἰ δὲ εἰς τὸν Φεβρουάριον αὖτη, ἐκεῖνο τὸν Ἀπρίλιον· <11>ἀφαίρεσιν μόνον τοσούτων ἐνθάδε ποιῶν ἡμερῶν, ὅσων ἐκεῖ προσθήκην, τριῶν δηλαδή, εἰ δὲ βίσεκτον εἴη, τεσσάρων. <12>Ἀλλὰ καὶ τὸ νομικὸν ἐντεῦθεν πάσχα γινώσκεται, τῇ αὐτῇ μὲν ἀεὶ τῆς ἑβδομάδος ἡμέρᾳ συμπίπτον, ἥν ὁ πεντηκοστὸς ἀριθμὸς ἐπὶ τῆς ἀποκρέω δείκνυσι, <13>μετ᾽ ἀφαίρεσιν δὲ κἀνταῦθα τριῶν ἢ τεσσάρων τοῦ μηνὸς ἡμερῶν.

[*7.15α*] *Ἤ καὶ οὕτως.*

<1>Ἀρίθμει μετὰ τὴν Ἀπόκρεω ἤτοι ἀπὸ τῆς δευτέρας τῆς τυροφάγου ἡμέρας νς′, κἀκεῖ τὸ Χριστιανῶν Πάσχα εὑρήσεις. <2>Ὅσαι δὲ ἡμέραι εὑρίσκονται ἀπὸ τῆς δευτέρας τῆς διακαινισίμου, μέχρι τῆς τρίτης τοῦ Μαΐου, τοσαύτας ἐκδέχου καὶ τὰς ἐν τῷ θέρει νηστίμους εἶναι τῶν Ἁγίων Ἀποστόλων. <3>Εἰ μὲν ἐν τῷ Μαρτίῳ τὸ ἐνεστὼς εὑρίσκεται τῶν Ἰουδαίων Πάσχα, προσθετέον ἡμέρας ιθ′· κἀκεῖ τὸ ἐπιὸν εὑρεθήσεται. <4>Εἰ δὲ ἐν τῷ Ἀπριλίῳ τὸ ἐνεστώς, ὑφαιρετέον

[*7.15*] *The Manner In Which the* Apokreos[364] *is Found.*[365]

<1>After finding, then, the day of the month during which the Pascha of the Christians is celebrated, add to this another three days, or four if the year should be leap. <2>And summing up all [days], if their number, on one hand, falls in the [month of] March, seek the *Apokreos* on the equivalent day of [the preceding] January. <3>And if, on the other hand, that [number] is found in April, search for this [*Apokreos*] in [the preceding] February.[366] <4>And search [for the *Apokreos*] in this manner, as well: <5>the current *themelios* of the moon, you shall extend until the fifth decade,[367] appending to it the days from the first of January and forward. <6>And when the number fifty[368] is accomplished on whichever day of the week, celebrate the *Apokreos* assuredly on the following Sunday. <7>But when the moon has advanced to the 26th or later *themelios*,[369] you shall take only one [day] from January, and the rest indeed from February.[370] <8>Thus[371] you shall know on which [date] the *Apokreos* falls. <9>If, on the one hand, [the *Apokreos* falls] in January, (419) the Pascha will positively be in March (I am referring to that of the Christians). <10>If, on the other hand, it[372] [falls] in February, that[373] [will positively be] in April. <11>At this point, make a subtraction of only as many days as there[374] [you had made an] addition, that is to say of three, or if it[375] should be leap, of four.[376] <12>But the *Nomikon* Pascha will also be known from here, as always falling as well on the same day of the week upon which the fiftieth number [calculated] for the *Apokreos* indicates,[377] <13>after subtraction from here also[378] of three or of four days of the month.[379]

[*7.15a*] *[96] Or Also In This Manner.*[380]

<1>Count after the *Apokreos*, that is from the second day[381] of the *Tyrophagos* [week],[382] 56 days, and there you shall find the Pascha of the Christians.[383] <2>And as many days as are found from the second [day][384] of the *Diakainisimos* [week][385] until the third [day] of May,[386] accept as many [to be] the fasting days during the summer of the [feast of] the Holy Apostles.[387] <3>If then the current Pascha of the Jews is found in [the month of] March, let 19 days be added; and

ἡμέρας ια′· κἀκεῖ τὸ ἐρχόμενον ἔσται. <5>Ἐπὶ δὲ τοῦ ἑκκαιδεκάτου μόνου κύκλου τῆς σελήνης οὔσης, ιβ′ ἀφαιρετέον· <6>καὶ τὸ ἐπιὸν εὐθὺς ἔσται δῆλον.

NOTES:

364. =*Meatfare Sunday.* This is the Sunday that marks for the Orthodox the end of the meat eating period that follows Christmas, and opens the Cheesefare week, during which pre-Lenten partial fasting regulations permit only the consumption of eggs and dairy products. On *Apokreos* Sunday, the story of the Second Judgment is read from the Gospel of Matthew (25:31-46); a week later comes Cheesefare Sunday, commemorating the expulsion of Adam from Paradise. On the following day, i.e., on "Green" or "Clean" Monday, Great Lent begins, with its more rigorous fasting regimen. Great Lent ends forty days later, with the ninth hour on Friday in the sixth week of the Great Fast, followed by the Saturday of Lazarus and Palm Sunday. Thereupon starts the Great and Holy Week of the Sacred Passion of the Lord, which culminates with His Resurrection on the Sunday of Holy Pascha. For a very readable and concise discussion of the significance of these days in the ecclesiastical year, see K. Ware's "Preface" to the *The Lenten Triodion*, translated by Mother Mary and Archimandrite K. Ware, Faber and Faber, London, 1978 (esp. pp. 43–64).

365. As noted earlier, beginning with §7.14, all headers to the end of the Chapter are cast as a statement rather than as a question in both Rhalles and Potles, as well as Migne.

366. Stated mathematically, this algorithm is as follows: AP = HP + *ν*, in which AP: *Apokreos* (date in January); HP: Holy Pascha (date in March); *ν* = 3, if year is regular; *ν* = 4, if year is leap. Assume that 3/32 = 4/1, etc., for Holy Pascha dates in April; and that 1/32 = 2/1, etc., for *Apokreos* dates in February.

367. =up to fifty.

368. See also the discussion on the number 50, found in §7.13b.8-11.

369. See also §7.13b.6. Here, the algorithm seems inclusive of 26, but it should not be. Consider for example, A.D. 1345 (6853 MEC), for which SC = 21; LC = 13; TH = 26. Then, 50 -26 = 24, i.e., Jan. 24, which in A.D. 1345 was Monday, and the *Apokreos* was on the following Sunday, Jan. 30. The Holy

there the next one shall be found. <4>And if the current [Pascha of the Jews] is [found] in [the month of] April, let 11 days be subtracted; and there shall be the coming [one]. <5>And only when the moon is[388] [currently] upon the sixteenth cycle, let 12 [days] be subtracted [in calculating the Pascha of the Jews for the 17th cycle]; <6>and immediately the following [Pascha of the Jews] shall become obvious.[389]

Pascha was on Mar. 27, which was 56 days after the *Apokreos*, as required per §7.15a.1 (1+28+27 = 56). The data also apply for A.D. 1877, since 1345 + 532 = 1877, per §7.11b.4.

370. Stated mathematically, this algorithm is as follows: AP′ = (50 – TH) + Int (TH / 27) * 30, in which: AP′: *Apokreos* estimate (date in January; *Apokreos* will be on the Sunday after this date); TH: *Themelios*. Assume that 1/32 = 2/1, etc., for *Apokreos* estimated dates in February.

371. i.e., by one of the two methods presented.

372. =the *Apokreos*.

373. =the Christian Pascha.

374. See §7.15.1.

375. =the year.

376. Stated mathematically, this algorithm is as follows: HP = AP – *v*, in which HP: Holy Pascha (date in March); AP: *Apokreos* (date in January); *v* = 3, if year is regular; *v* = 4, if year is leap. Assume that 3/32 = 4/1, etc., for Holy Pascha dates in April; and that 1/32 = 2/1, etc., for *Apokreos* dates in February.

377. Rhalles and Potles note in a footnote that book source B (*Synodikon* by Beveregius, A.D. 1672) adds here "should it be not [a] leap [year]", but they comment that "this is not encountered in the Codices considered."

378. See §7.15.11.

379. The subtraction "of three or of four" appears to be superfluous at this point and may suggest the intervention of a zealous but careless scribe.

380. Section §7.15a is only found in the Greek test presented by Migne, along with the Latin translation, where a footnote regarding its source reads: "Apud Cotelerium in *Monumentis Ecclesiæ Græcæ*, tom III, p. 646, ex codd. Joliano et Reg." The subject matter is not the *Apokreos*, except inasmuch as it introduces the ingenious (if self-evident) way of reckoning the *Apokreos* as 56 days (=8 weeks) before the Holy Pascha, suggested by Valsamon (*c.* 1140–*c.* 1195; see Rhalles and

Potles, Vol. 3, p. 492). The explanation regarding the length of the fast of the Holy Apostles would belong more naturally to section §7.14 on the Christian Pascha. §7.15a.3-6 essentially repeats §7.13b.12-15 on the *Nomikon* Pascha.

381. =Monday.

382. In the Orthodox liturgical calendar, the Great Fast of Pascha ("Great Lent") begins on Monday of the seventh week before the feast of the Resurrection. During the week preceding this Monday (known as "Green" or "Clean" Monday), the Orthodox embark on a transitional regimen of fasting during which eggs, milk and cheese are permitted, but meat is not. For this reason the week beginning with the Sunday of the Ἀπόκρεως (=Meatfare, which denotes the last week during which meat is consumed as well as the Sunday marking the beginning of the abstention from meat) until the beginning of the Great Fast is known as Τυροφάγος (=Cheesefare, which denotes the last week during which cheese, dairy products and eggs are consumed as well as the Sunday marking the beginning of the abstention from these foods, i.e., the beginning of the Great Fast). For a very readable and concise discussion of the significance of these days in the ecclesiastical year, see K. Ware's "Preface" to the *The Lenten Triodion*, translated by Mother Mary and Archimandrite K. Ware, Faber and Faber, London, 1978 (esp. pp. 43-64).

383. Stated mathematically, this algorithm is as follows: AP = HP – 56, in which AP: *Apokreos* and HP: Holy Pascha. The algorithm applies to both regular and leap years. Consider, for example A.D. 1335 (6853 MEC), a regular year: The *Apokreos* fell on 1/30 and the Holy Pascha on 3/27, which can be rewritten as 1/(31+28+27), or 1/86. Thus, 86 – 30 = 56. These data also apply to A.D. 1877. Consider now a leap year, A.D. 1334 (6852 MEC): The *Apokreos* fell on 2/8, which can be rewritten as 1/39, and the Holy Pascha on 4/4, which can be rewritten as 1/(31+29+31+4), or 1/95. Thus, 95 – 39 = 56. These data also apply to A.D. 1876.

384. =Monday.

385. =the week after Holy Pascha, ending on the second Sunday of Pascha, known as Sunday of St Thomas. In Greek, διακαινήσιμος =renewal, but see also §7.20.1: καινή =new.

386. =May 3rd.

387. This is a rare occasion on which the solar and lunar calendars of the Church combine to determine the length of the fast for the fixed feast of the Holy Apostles, depending on the date of the celebration of the moveable feast of the Holy Pascha. The fast "starts on the Monday eight days after [the movable feast of the Sunday of] Pentecost, and ends on [the fixed date of] 28 June, the eve of the Feast of Saints Peter and Paul." See Ware, T. (1993), *The Orthodox Church*, Penguin Books, London, England, p. 300. The feast of Sts. Peter and Paul on June 29 is followed by the feast of the *Synaxis* (=Assembly in honor of) the Holy Apostles (i.e., the 12 and of the 70), which is celebrated on June 30. The

otherwise obscure St. Maura, whose fixed feast day is celebrated on May 3, owes much of her name recognition to this calculation of the length of the Apostles fast. St. Maura, a newly-wed from Antinoe in Egypt, was crucified along with her husband St. Timothy the Reader by Governor Arrhianus of Thebes, for refusing to turn over the ecclesiastical books and to renounce Christ. Their martyrdom is variously dated, but it most probably occurred during the reign of Diocletian (284–305). St. Maura's head relic is treasured in the town of Koilani in Cyprus. Consider, for example, A.D. 1338 (6846 MEC), in which the Holy Pascha was on April 12. There are 21 days between April 12 and May 3 (the latter can be thought of as 4/33; therefore, 33-12 = 21). Consequently, the fast of the Holy Apostles lasted 21 days, i.e., from Monday, June 8 through Sunday, June 28 (both inclusive). The feast of the Holy Apostles (i.e., of Sts. Peter and Paul) on June 29, fell on a Monday. The same data apply for the year A.D. 1870, which was 532 years later.

388. The phrase "when the moon is" is missing from the otherwise identical segment found in §7.13b.12-15, in Rhalles and Potles.

389. See 7.13b.15n for a mathematical statement of this algorithm.

[*7.16*] *Περὶ τοῦ νομικοῦ πάσχα, καὶ τῆς περὶ τὴν πανσέληνον διαφωνίας.*

<1>Ἄριστα μὲν πάντων, καὶ ὡς οὐκ ἄν τις ᾠήθη κάλλιον, τὸ παρὸν κανόνιον τοῖς Πατράσι συντέθειται· <2>τοὺς γὰρ κύκλους ἀμφοτέρων τῶν φώτων, ἡλίου τε, φημί, καὶ σελήνης, τοῖς ἔξω σελιδίοις, ἔχον περικειμένους, <3>τῷ μὲν τῆς σελήνης κύκλῳ, τὸ νομικὸν ἐγγὺς ὂν δείκνυσι πάσχα, τῷ δὲ τοῦ ἡλίου, τὸ Χριστιανικόν, ἐπὶ τῆς αὐτῆς ἔνθα καὶ τὸ νομικὸν κείμενον εὐθείας. <4>Ἆρ᾽ οὖν οὐκ ἐναργὴς τὰ στοιχεῖα ταυτὶ τῶν πραγμάτων εἰκών; <5>Ἆρ᾽ οὐκ ἀμφοτέρων κηρύττει τῶν διαθηκῶν ἐπιφανῶς τὸ διάφορον; <6>Ἡ γὰρ σελήνη τὸν ἐπείσακτον εἰκονίζουσα νόμον, τὸν ἐν τῇ νυκτὶ τῆς πολυθέου πλάνης ἀμυδρῶς αὐγάζοντα τὴν τῆς θεογνωσίας ἀλήθειαν, ἀπόῤῥητον ὂν τοῖς πλείστοις, οἷα μυστήριον, <7>καὶ ὥσπερ ἐν σκότει καλυπτόμενον τὸ τέλειον τῆς τρισηλίου Θεότητος φῶς, οὐκ ἔξω λόγου, καὶ τὸ τοῦ νόμου δείκνυσι πάσχα· <8>τὴν δὲ πλουσίαν εἰκονίζων τῆς χάριτος δᾳδουχίαν ὁ πᾶσιν ἡδὺς ἰδεῖν ἥλιος, καὶ τὴν τρανὴν καὶ ἀνακεκαλυμμένην ὡς ἐν μεσημβρίᾳ τῆς ἀληθείας ἀκτῖνα, <9>καὶ τὴν τῆς Τριάδος ἐπίγνωσιν, ἣν ὁ τῆς δικαιοσύνης πᾶσιν ἐφήπλωσεν ἥλιος, ὑφηγητὴς εἰκότως καὶ τοῦ ἀληθινοῦ πάσχα δείκνυται. <10>Ἀλλ᾽ ἐπειδὴ γὰρ ὁ νόμος τὴν τῆς σελήνης ὁλόκληρον περίοδον μῆνα καλεῖν εἰώθει, καὶ τῇ ιε′. τοῦ πρώτου αὐτῆς μηνός, τὸ πάσχα θεσπίζει τελεῖν, <11>ἡμῖν δὲ τούτους κατὰ Ῥωμαίους ἔθος μετρεῖν, χρησίμως τὸ παρὸν εὕρηται κανόνιον, <12>ὑποδεικύον τὸν πλησιφαῆ τοῦ πρώτου μηνὸς τῆς σελήνης σχηματισμόν, ἐν ποίᾳ τοῦ Ῥωμαϊκοῦ μηνὸς ποστῇ γίνεται· <13>καὶ αὖτη πάλιν ἐν ποίᾳ τυγχάνει τῆς ἑβδομάδος ἡμέρᾳ· <14>ἵν᾽ ἡμεῖς ἐκεῖθεν ἐπὶ τὴν πρώτην τῆς ἑβδομάδος ἐλθόντες, καὶ τὴν κατ᾽ αὐτὴν αὖθις τοῦ μηνὸς γνόντες ποστήν, τὸ ἡμέτερον πάσχα βεβαίως πανηγυρίζωμεν.

[*7.16*] *About the* Nomikon *Pascha and the Disagreement About the Full Moon.*[390]

<1>The present *Canonion*[391] has been compiled by the Fathers[392] most excellently[393] among any others, such that one could not expect a better one. <2>For having the cycles of both lights — of the sun, I say, and of the moon — arranged along the outer columns, <3>it shows next to the cycle of the moon the *Nomikon* Pascha, whereas [next to][394] the cycle of the sun [it shows] the Christian [Pascha], lying on the same row[395] where the *Nomikon* [Pascha] also [does]. <4>Therefore, do these very elements here not [constitute] at the same time a bold icon of the issues [we are concerned with]? <5>Therefore, does it[396] not proclaim manifestly the contrast between both of the Covenants?[397] <6>For it is not unreasonable [to say that] the moon, being an icon for the alien[398] Law, which[399] during the night of the polytheistic deception illumines faintly the truth of God's knowledge, which[400] remains[401] ineffable[402] to most, like a mystery, <7>and also [the alien Law that illumines faintly] the perfect light of the three-sun divinity[403] as if [the divinity were] concealed in darkness, [the moon then] shows forth the Pascha of the [Mosaic] Law,[404] as well. <8>On the other hand, the sweet for all in appearance sun is an icon for the abundant torch-feast of grace, and for the ray of the truth [that is] brilliant and revealed as if at noon-time, <9>and for the acknowledgment[405] of the Trinity, which[406] the sun of righteousness has spread upon all, [who] also manifests Himself appropriately[407] as the initiator[408] of the true Pascha. <10>Yet, because the [Mosaic] Law customarily calls[409] the entire circuit[410] of the moon a month, and stipulates[411] that the [*Nomikon*] Pascha should be celebrated on the 15th [day] of the first month,[412] <11>whereas[413] among us we reckon them[414] according to the custom of the Romans, (420) the present *Canonion* [B] will be found useful, <12>for showing [as it does] on which particular date of the Roman month occurs the completely illumined configuration of the moon[415] during the first month; <13>and again, on which day of the week this [date] happens. <14>So that from that [day and date], we may come upon the first day of the week,[416] and we may

NOTES:

390. Rhalles and Potles note in a footnote that Manuscript 1375 (A.D. 1541) adds at this point "Matthew [Vlastares] is known to be author of this, as well," reinforcing the assertion that this section is the beginning of a pre-existing (perhaps earlier), originally stand-alone document, which was subsequently incorporated into Chapter 7 *About the Holy Pascha*. Theocharides, G.I. (1970), *Ὁ Ματθαῖος Βλάσταρις καὶ ἡ Μονὴ τοῦ κύρ-Ἰσαὰκ ἐν Θεσσαλονίκῃ*, (=Matthew Vlastares and the Monastery of Kyr-Isaac in Thessalonike), in Greek, *Byzantion*, XL (40), Brussels, Belgium, pp. 4441–442, notes the presence of such a document in a codex of unknown age, but Paschos, P. B. (1972), *Ἄγνωστα Ἔργα τοῦ Βλάσταρι*, (=Unknown Works of Vlastares), in Greek, *Theologia*, 43, Athens, Greece, pp. 810–811, disputes that this constitutes satisfactory proof that such a document pre-existed the publication of the *Syntagma*. See also §7.13 for the determination of the *Nomikon* Pascha. The purpose of section §7.16 is simply to introduce the *Canonia*, point out how they bring together the solar and lunar calendars, and expound on their symbolic and iconic meaning. Evidently, there was a disagreement about the full moon, lingering perhaps since Gregoras' presentation in the Imperial Court (*c.* A.D. 1324), but most probably dating even before that. The Orthodox were keenly concerned about the astronomical errors of the traditional ecclesiastical computation; cf. §7.17.26. As noted earlier, beginning with §7.14, all headers to the end of the Chapter are cast as a statement rather than as a question in both Rhalles and Potles, as well as Migne.

391. =regulation, tabulation, *computus*. Vlastares presents two distinct *Canonia*, which are referred to in this translation as *Canonion* A and B. *Canonion* A, which appears first in the Greek texts of both Rhalles and Potles and of Migne, was evidently compiled by Vlastares himself, who had performed his own calculations on the basis of Ptolemy's algorithms; it presents the dates and times of the astronomical Paschal full moons for three lunar cycles, each constituting a complete set of 19 years. The first reference to one of the *Canonia* occurs in §7.16.1 and it relates to *Canonion* B, which presents ostensibly perpetual dates of the Christian Pascha as a function of the lunar and solar cycles; Vlastares ascribes *Canonion* B to "the divine Fathers" of A.D. 725.

392. See also §§7.2.26, 34, 39, 43; 7.17.10, 14, 28, 35, 45; 7.18.46, 49; 7.26.2.

393. In view of Vlastares' own critique of the astronomical precision of the *Canonion*, the characterization "most excellent" probably refers to its arrangement (§7.16.2-3), rather than its content, *per se*.

determine in turn the particular date of the month, and we may celebrate with confidence[417] our own Pascha.

394. =underneath.

395. =straight line.

396. =this *Canonion*.

397. ="the types" of the Old Testament and "the consummation of the truth" of the New Testament; cf. §7.1.7.

398. The Law is alien inasmuch as it had been introduced after the plan of creation had been completed, on account of the transgression of Adam and Eve. Cf. Gal 3:19.

399. =alien Law.

400. =God's knowledge.

401. =is.

402. =inconceivable; literally, secret, untold.

403. The phrase "three-sun divinity" echoes the *apolytikion* (=dismissal hymn) of the Three Hierarchs (feast day: January 30), with which Vlastares — a hymnographer — must have been familiar.

404. =the *Nomikon* Pascha.

405. =recognition.

406. =ray of truth.

407. =naturally.

408. =leader.

409. This reference simply means that the Old Testament (and Moses in particular) employed a lunar not a solar calendar.

410. Literally, period (Gr. περίοδον).

411. Cf. Ex 12:6, Lev 23:5, Num 9:3, all of which stipulate the 14th of the first month.

412. At this point, Vlastares switches from the 14th (see §7.1.8) to the 15th of Nisan as the first day of Passover, exhibiting a confusion that has plagued many a computistical treatise. This reaffirms that a separate portion of the Chapter begins with §7.16. Assuming a 29.5-day long synodic lunar month, its middle (the full moon) occurs at 29.5/2=14.75 days, which might explain why some authors refer to the 14th, while others to the 15th day of the moon. Because the Hebrew day begins at sunset of the preceding solar day, the "first night of Passover" is already Nisan 15 by the Hebrew calendar, but is still "Nisan 14" according to the solar Roman calendar. Another source of confusion stems from the observation

that many Christian writers refer to Passover as the day on which the Paschal lambs were slaughtered (solar "Nisan" 13/14), whereas their Jewish counterparts refer to Passover as the first day of the feast of the *Mazzot* or *Azymes* (solar "Nisan" 14/15). See also §7.1.8n; and §7.4.14.

413. Vlastares acknowledges here that the civil calendar may deviate from or have differences with the religious calendar.

414. =the months.

415. =the full moon. The corresponding column in *Canonion* B is labeled the *Nomikon Faska*, and provides the dates of the ecclesiastical Paschal full moon, thereby affirming the equivalence assumed by Vlastares between the Paschal full moon and what he calls the *Nomikon* Pascha (and on one occasion, §7.4.11, the Jewish Pascha). Note that *Faska* is an alternative Greek translitera-

tion of the Hebrew word *Pesah*, which is most commonly rendered as Pascha. *Faska* was probably introduced in order to sever the connection between Pascha and the Greek verb πάσχειν, to suffer, but also perhaps to distinguish the Christian reckoning of the feast of Passover of the Law, from that observed by the Jews themselves. Also note that Vlastares uses Pascha consistently in his text, and the appearance of *Faska* in the *Canonion* may suggest the intervention of a subsequent scribe. More evidence of subsequent tampering may be present in the errors and discrepancies to be found in both *Canonia*, as noted in the endnotes I have appended to each.

416. =the subsequent Sunday.

417. =assurance.

[*7.17*] *Ὅτι τέσσαρες οἱ τοῦ πάσχα διορίσμοι.*

<1>Τέσσαρες δέ εἰσιν οἱ ἀναγκαίως ζητούμενοι περὶ τὸ ἡμέτερον τοῦτο πάσχα διορισμοί· <2>δύο μέν, οὓς ὁ Ἀποστολικὸς θεσπίζει κανών, ὡς ἐν τῷ τοῦ πάσχα Κεφαλαίῳ πρὸ βραχέος εἰρήκαμεν, <3>καὶ δύο, οἷς ἐξ ἀγράφου χρώμεθα παραδόσεως· <4>α′. ὅτι δεῖ μετὰ ἰσημερίαν ἐαρινὴν τὸ πάσχα ἐπιτελεῖν· <5>β′. ὅτι οὐ τὴν αὐτὴν ἡμέραν τῆς Ἰουδαϊκῆς τελετῆς· <6>γ′. ὅτι οὐχ ἁπλῶς μετ᾽ ἰσημερίαν, ἀλλὰ μετὰ τὴν πρώτην μετ᾽ ἰσημερίαν πανσέληνον· <7>καὶ δ′. ὅτι καὶ μετὰ τὴν πανσέληνον, εὐθὺς τῆς ἑβδομάδος πρώτῃ. <8>Ἵνα τοίνυν καὶ οἱ τέσσαρες οὗτοι διορισμοὶ πᾶσιν ἐπίσης διατηρῶνται σοφοῖς τε καὶ ἰδιώταις, <9>καὶ οἱ ἀνὰ πᾶσαν τὴν οἰκουμένην Χριστιανοὶ τὸν αὐτὸν ἑορτάζωσι χρόνον, καὶ μὴ ἀστρονόμων ἑκάστοτε δέωνται, <10>τὸ παρὸν οἱ Πατέρες ἡμῶν κανόνιον συντετάχασι, καὶ τῇ Ἐκκλησίᾳ παραδεδώκασιν, <11>οἰηθέντες δι᾽ αὐτοῦ μηδένα τῶν ῥηθέντων προσδιορισμῶν καταλύεσθαι. <12>Εἴργασται δὲ αὐτοῖς ὁ κανὼν οὕτω· <13>λαβόντες ιθ′. ἑξῆς ἐνιαυτοὺς τοὺς ἀπὸ τοῦ ,ϛλγ′. ἔτους ἀπὸ γενέσεως κόσμου, μέχρι τοῦ ,ϛσνα′. καὶ ἐπιλογισάμενοι τὴν ἐν ἑκάστῳ αὐτῶν μετὰ τὴν ἐαρινὴν ἰσημερίαν πρώτην πανσέληνον, <14>(ἐπέβαινε δὲ τοῦ τῆς ἰσημερίας σημείου τηνικαῦτα ὁ ἥλιος, ὅτε τοῖς Πατράσι ταῦτα ἐσκοπεῖτο, τὴν πρώτην καὶ εἰκοστὴν τοῦ Μαρτίου μηνός, ὡς τὰ ἰδίως ἡμῖν ἐκτεθέντα σαφῶς δηλοῦσι κανόνια), <15>ἐσημειώσαντο καὶ ποίαν ἡμέραν τοῦ Μαρτίου ἢ τοῦ Ἀπριλίου συμβαίνει τῶν πανσελήνων ἑκάστην γίνεσθαι· <16>περιλαβόντες οὖν τὴν ἐννεακαιδεκάδα ταύτην τῶν ἐτῶν τε καὶ πανσελήνων ἑνὶ κανονίῳ δύο περιέχοντι σελίδια, <17>καὶ μέχρι τριακοσίων ἐτῶν τὰς μετ᾽ ἰσημερίαν ἐαρινὴν τοῦ πρώτου μηνὸς πανσελήνους ταῖς αὐταῖς τῶν μηνῶν συμπίπτειν ἡμέραις σκοπήσαντες, <18>τῇ ἐφεξῆς ἀνακυκλήσει τῶν ἐννεακαιδεκαετηρίδων, <19>τούτῳ ἡμῖν χρῆσθαι τῷ κανόνι παρέδοσαν, κατά γε τὰ ἑξῆς ἅπαντα ἔτη, <20>ὡς οὐκ ἄτοπον ὄν, οὐδὲ τῇ εὐσεβείᾳ λυμαινόμενον, <21>εἰ παρὰ τὴν ἀνώμαλον τῆς σελήνης κίνησιν, μετὰ τὴν ἐξαρίθμησιν τῶν ῥηθέντων τ′. ἐτῶν, <22>ὁ κανὼν οὑτοσί, μὴ κατὰ τὴν πανσέληνον τοῦ πρώτου μηνός, ἀλλὰ μετὰ μίαν ἢ δύο ἡμέρας τὸ νομικὸν δείξει πάσχα, <23>καὶ παρὰ τοῦτο συμβήσεται τὸν δ′. ἐνίοτε μὴ τηρεῖσθαι τοῦ

[*7.17*] *That Four are the Stipulations of Pascha.*[418]

<1>There are four necessary stipulations [to be] sought out concerning our own Pascha itself. <2>Two [of these] on the one hand are promulgated by the Apostolic canon,[419] as we stated a short while ago[420] in the Chapter on Pascha.[421] <3>And two,[422] which we utilize from an unwritten tradition.[423] <4>(a) That Pascha should be celebrated after the Spring Equinox.[424] <5>(b) That [it should be celebrated] not on the same day as the Jewish celebration.[425] <6>(c) That [it should be celebrated] not *[97]* simply after the Equinox, but after the first full moon after the Equinox. <7>And, (d) that [it should be celebrated] both after the Equinox and immediately on the first day of the week.[426] <8>Accordingly, so that all these four stipulations may be preserved uniformly by the wise as well as the ordinary folk, <9>and [so that] all Christians around the inhabited world should hold the feast at the same time, and [so that] they should not be in need of astronomers on each occasion, <10>our Fathers[427] have compiled the present *Canonion* [B], and have delivered it to the Church, <11>thinking that through this none of the aforementioned stipulations would be violated. <12>The canon[428] was constructed by them[429] in this manner: <13>Taking the 19 consecutive years from the 6233rd year since the creation of the world,[430] up to the year 6251,[431] and reckoning during each one of them the first full moon after the Spring Equinox <14>(now, at the time when these [issues] were investigated by the Fathers,[432] the sun would stride precisely over the point of the Equinox on the twenty-first [day] of the month of March,[433] as the *canonia*[434] that have been presented to us personally clearly declare), <15>they also noted which day of [the week in] March or April each of the full moons[435] happens to occur on. <16>Therefore, they included these groups of nineteen years and also of the full moons in a single *Canonion*[436] containing two columns; <17>and observing that even for up to three hundred years,[437] the full moons of the first month after the (421) Spring Equinox fell on the very same days[438] of the months, <18>through the consecutive iteration of the nineteen-year cycle,[439] <19>they delivered this canon to us to use during indeed all the years to follow, <20>since[440] it will not

πάσχα διορισμόν, <24>ἅτε τῆς προσθήκης τῶν δύο ἡμερῶν ὑπερβαίνειν ἔσθ᾽ ὅτε ποιούσης τὴν μετὰ τὴν πανσέληνον πρώτην κυριακήν, <25>κἀκείνην μὲν τῇ τῶν Βαΐων ἀφοσιοῦν ἑορτῇ, τῇ γε μὴν ἑξῆς τὸ σωτήριον πάσχα ἐπιτελεῖν· <26>τοῦτο δὴ τὸ ἐφ᾽ ἡμῖν ἀρτίως συμβαῖνον, καὶ τοὺς πολλοὺς ἐκταράττον, ὡς ἀναγκαίου τινὸς καταλυομένου δόγματος καὶ ἀξίου μὴ παρορᾶσθαι. <27>Τοῦτο δὲ ὥσπερ πάλαι ἐπιτυγχάνον οὐκ ἄχρηστον, οὕτω νῦν διαμαρτάνον ἀκίνδυνον δειχθήσεται· <28>οὐ γὰρ λέληθε τοῦτο τοὺς πάντας ἀρίστους ἐκείνους Πατέρες, οὐδὲ παρὰ τὸ ἀνεπιστημόνως ἔχειν αὐτοὺς περὶ τὴν ἀστροθεάμονα τέχνην, τοῦτο συμβέβηκεν, <29>ἀλλὰ παρὰ τὴν τῶν φωστήρων, ὡς εἴρηται, κίνησιν· <30>τὸ δ᾽ ὅπως, αὐτίκα ῥηθήσεται. <31>Τὸ ἐνιαύσιον κίνημα δι᾽ ἡμερῶν ἀποκαθίσταται τξε′. καὶ τεταρτημορίου ἡμέρας ἔγγιστα· <32>αἱ δὲ μέσαι τῆς σελήνης κατὰ μῆκος πάροδοι οὐκ ἀποκαθίστανται ἐν ὅλοις ἔτεσι ιθ′. τοῖς κατὰ προσθήκην τοῦ τετάρτου ἀριθμουμένοις· <33>ἀλλὰ παρὰ μιᾶς ἡμέρας ἑξηκοστὰ πρῶτα τρία, καὶ δεύτερα λζ′. <34>καὶ διὰ τοῦτο ἐν τδ′. ἐνιαυτοῖς οὐχ ὅλοις πάλιν, ἀλλ᾽ ἐλαττουμένοις ἡμέρας οὐδέν, λεπτὰ πρῶτα νζ′. καὶ δεύτερα νβ′. ἤτοι μίαν ἡμέραν ἔγγιστα, ἡ εἰρημένη γίνεται ἀποκατάστασις· <35>λαβόντες γὰρ ἀρτίως ἡμεῖς τὴν μετὰ τδ′. ἔτη ἀπὸ τῶν Πατέρων ἐννεακαιδεκάδα, <36>δεκάτην ἑβδόμην οὖσαν τῆς ὑπ᾽ ἐκείνων τῷ τότε ληφθείσης, ἥτις ἄρχεται δηλονότι ἀπὸ τοῦ ,σφλζ′. ἔτους, <37>καὶ ἐπιλογισάμενοι τὰς ἐν αὐτῇ μετ᾽ ἰσημερίαν ἐαρινὴν πανεσλήνους, <38>εὕρομεν ἑκάστην γενομένην πανσέληνον πρὸ μιᾶς ἡμέρας τῶν ἐν τῇ α′. ἐννεακαιδεκάδι, <39>ὡς προτέτακται ἐν τῷ παρ᾽ ἡμῶν ἐκτεθέντι περὶ τούτων κανονίῳ· <40>ὡσαύτως δὲ καὶ τὰς ὁμοίας ἐπιλογισάμενοι συζυγίας τῆς ἐννεακαιδεκάδος, <41>ἥτις ἀπὸ ταύτης ἐν ἴσῳ διαστήματι ἄρχεται, ἀπὸ τοῦ ,ςωμα′. δηλονότι ἔτους, <42>πρὸ μιᾶς πάλιν ἡμέρας τῶν πρὸ αὐτῶν ταύτας εὕρομεν· <43>καὶ ἐν τοῖς ἑξῆς δὲ τῶν ἐτῶν, τοῖς τῷ ἴσῳ ἀεὶ διέχουσι διαστήματι, μίαν ὁμοίως ἡμέραν ἔγγιστα εὑρήσει τις τὴν τῶν συζυγιῶν διαφοράν· <44>διὰ δὴ τοῦτο ἀρτίως δύο μετὰ τὴν πανσέληνον ἡμέραι εὑρίσκονται προστιθέμεναι ἐν τῇ τοῦ νομικοῦ πάσχα εὑρέσει, <45>τῆς πανσελήνου μὴ δυναμένης καταλαβεῖν τὴν ὁρισθεῖσαν τοῖς Πατράσι ποστὴν τοῦ μηνός, <46>ὀπισθορμήτου γενομένης, ὡς εἴρη-

be absurd,[441] nor would it compromise[442] piety,[443] <21>if on account of the anomalous[444] movement of the moon, after the enumeration of the said 300 years,[445] <22>this very canon itself will indicate [that] the *Nomikon* Pascha[446] [occurs] not during the [astronomical] full moon of the first month, but after one or two days;[447] <23>and on account of this it will happen occasionally that the fourth stipulation[448] concerning Pascha will not be preserved,[449] <24>inasmuch as the addition of the two days[450] will cause every now and then the surpassing of the first Sunday after the full moon, <25>and dispensation will be offered [to celebrate] on that [first Sunday] the feast of the Palms,[451] and on the very next [Sunday] of course[452] to celebrate the salvific Pascha. <26>This is indeed what happens in our day recently,[453] and what perturbs[454] most people,[455] as though a necessary doctrine, and one that is worthy of not being overlooked, were dismantled.[456] <27>It will be shown[457] that just as this [doctrine] was not useless when in the older days it was properly kept,[458] in the same manner it is not dangerous now that it is somewhat misapplied.[459] <28>For this did not escape the notice of all those most excellent Fathers,[460] nor was it on account of a lack of scientific knowledge[461] on their part with regard to the art of observing the stars,[462] that this has happened, <29>but on account of the motion of the luminaries,[463] as was mentioned.[464] <30>How this [came about] will be stated immediately. <31>The annual motion [of the sun] is accomplished [and starts again][465] in 365 days, plus most approximately a quarter of a day. <32>Now, the occurrences of the middles[466] of the lunar cycle are not accomplished in the entirety of the 19 years, which are enumerated to include the addition of the one-fourth [of a day per year], <33>but [the 19-year cycle is truncated] by 3 first sixtieths[467] of a day and 37 seconds.[468] <34>And for this reason, in 304 years — again, not in their entirety, but being truncated by zero[469] days, 57 minutes, and 52 seconds, that is very closely by one day — the said accomplishment is made. <35>For having considered[470] recently[471] the 19-year [period] after 304 years since [the year of] the Fathers,[472] <36>being the seventeenth[473] one since the one assumed *[100]* by them back then, which starts that is from the year 6537,[474] <37>and reckoning

ται, ἐν τδ′. ἔτεσιν, μιᾶς ἡμέρας ἔγγιστα διαστήματι· <47>τοσαύτην ὁ χρόνος περὶ τὸν κανόνα τοῦτον πεποίηκε τὴν πλημμέλειαν.

NOTES:

418. See also §7.14. The header of §7.17 is missing from the text presented by Migne, both in the Greek original and in the Latin translation, even though the section is separated from the preceding one (§7.16) by an extra blank line. It is not possible to ascertain whether these observations are significant without access to the manuscripts themselves.

419. =the 7th Apostolic Canon. Note that there is no reference to a Nicaean decree on Pascha at this point. See also §§7.2.19, 26, 28; 7.18.60.

420. See §7.2.29. Rhalles and Potles indicate in a footnote that "a short while ago" is replaced in book sources B (*Synodikon* by Beveregius, A.D. 1672), ε (16th? c.) and K (A.D. 1794) by the phrase "near the letter Π," which is the Greek initial of the word Pascha, pointing to a section near the beginning of Chapter 7 *About the Holy Pascha*.

the [astronomical] full moons after the [ecclesiastical] Spring Equinox [of March 21] during it, <38>we found every [astronomical] full moon to be one day ahead[475] compared to those during the first 19-year [period], **(422)** <39>as has been presented in the *Canonion* [A] exhibited by us[476] about these [issues]. <40>In likewise manner, reckoning the similar *syzygies*[477] of the 19-year [period], <41>which starts from this[478] in an equal interval [of 304 years], that is from the year 6841,[479] <42>we[480] found them again [to be] one day ahead compared to the ones prior to them. <43>And in the years to come, those that always are apart by the same interval [of 304 years], one will find in likewise[481] manner a difference of most approximately one day between the *syzygies*. <44>For this reason indeed, recently two days[482] after the [astronomical] full moon are found to be added during the computation of the *Nomikon* Pascha, <45>the [astronomical] full moon being unable to catch up with[483] the particular day of the month that was specified in the [time of the][484] Fathers,[485] <46>which[486] has acquired a tendency to occur earlier,[487] as has been stated,[488] in 304 years,[489] by an interval of one day most approximately. <47>By this much has time created an error regarding this canon.[490]

421. This reference to "the Chapter on Pascha" may suggest that section §7.17 was originally not part of the Chapter, and that in fact it existed as an independent, perhaps earlier, work. See also footnote to Header of §7.16.

422. See also §7.2.30.

423. See also the discussion of the four stipulations in §§7.2.28-31; 7.4.7-10.

424. Among the earliest sources for this are Dionysius of Alexandria (*c.* 195–265), cited in §7.22.8n, and Anatolius of Alexandria or Laodicea (*c.* 270), cited in §§7.1.12n; 7.2.14n. See also Epiphanius of Cyprus (A.D. 367–403), Migne, *PG* 42:365.

425. Because of the confusion with regard to the 14th or 15th of Nisan (see §7.1.8, cf. §7.16.10), it is unclear which Jewish celebration is meant here, i.e., whether the reference is to the day of sacrificing the Paschal lambs, or to the

first day of the feast of the *azymes*. The confusion is accentuated by the fact that the Jewish day begins at the preceding sunset. The prevailing opinion among Byzantine writers is that the 14th of Nisan is to be avoided. See also §§7.2.19, 29; 7.4.10; 7.18.60; 7.19.2. Note that Vlastares here does not say "*after* the Jewish celebration," i.e., he ignores the so-called Zonaras' *proviso*.

426. =Sunday. This stipulation dates back to *c*. A.D. 150, as noted in §7.2.43n; §7.2.45n. See also *Apostolic Constitutions* 5:17.

427. See also §§7.2.26, 34, 39, 43; 7.16.1; 7.17.14, 28, 35, 45; 7.18.46, 49; 7.26.2. It is notable that Vlastares does not mention here what was a serious concern at the time of the Council of Nicaea (A.D. 325), namely that the Christian Church should avoid dependence on the Jewish Sanhedrin for calendrical reckoning.

428. =rule, i.e., *Canonion* B.

429. =our Fathers.

430. =A.D. 725 = 6233-5508. The year 6233 MEC marks the beginning of the 329th 19-year cycle since the creation of the world. One might have expected the Fathers to commence from a year near the date of the convocation of the Council of Nicaea (A.D. 325); for example, the year A.D. 326 (or 5834 MEC) marked the beginning of the 308th 19-year cycle since the creation of the world. It is unlikely that the year 6233 quoted here represents an error committed by Vlastares with regard to the chronology of Nicaea or by a scribe in copying the manuscript. Since Vlastares could have had easy access to many of the chronicles that record the history of the Nicaean Council, the probability of an error on his part must be ruled out. Nonetheless, the Byzantine alphanumeric representation of 6233 is ,ϛσλγ΄, whereas for 5833 (A.D. 325) it would be ,εωλγ΄; their similarity leaves some room for suspecting a scribe error. Yet, both Rhalles and Potles, as well as Migne (Greek and Latin) reproduce the references to years 6233 and 6251, suggesting that the reason for the apparent discrepancy may be unrelated to the date of Nicaea. In his discussion of the Council of Nicaea elsewhere in his *Syntagma* (Rhalles and Potles, Vol. 6, p. 11), Vlastares does not mention anything about the deliberations on Pascha at that historic gathering. Consequently, in §7.17.13, Vlastares may be referring to St. John of Damascus (*c*. 675-*c*. 749), whose computistical tabulation appears in Migne, *PG* 95 (Columns 239-242), or perhaps even to the Venerable Bede of Jarrow (A.D. 673?-735), whose important work *De Temporibus* was published in A.D. 725. It was Bede's treatise that eventually convinced Rome and the rest of the West to accept the Eastern (Alexandrian) method of Paschal reckoning. In any case, the conclusion I reach is that Vlastares does not ascribe the Paschal canon to the Council of Nicaea, nor to any other Ecumenical Council, for that matter. His adherence to the *Canonion* is certainly theological, but it is not dogmatic. His concern is a practical and potentially a legal problem, and his resistance to a change in the *Canonion* is a practical solution to this problem, as his explanations in §7.18.50-60 demonstrate.

431. =A.D. 743 = 6251-5508. Pursuant to the comments in the previous footnote, one might have expected this date to have been A.D. 343, i.e., 19 years after the year in which the Council of Nicaea had been convoked. Once again, the Byzantine alphanumeric representation of 6251 is ,ϛσνα′, whereas for 5851 (A.D. 343) it would be ,εωνα′; as before, there is a reasonable similarity, but not enough to cause me to alter the conclusion I reached previously, i.e., that Vlastares does not relate the *Canonion* to any decision of an Ecumenical Council.

432. See also §§7.2.26, 34, 39, 43; 7.16.1; 7.17.10, 28, 35, 45; 7.18.46, 49; 7.26.2. It is apparent at this point that "the Fathers" were engaged in astronomical calculations in preparing the *Canonia*, thereby underscoring the significant astronomical aspect of Paschal reckoning.

433. The common assertion is that at the time of the Council of Nicaea in A.D. 325, the Spring Equinox occurred on March 21, but program *VE.EXE* results in 3/20 as the astronomical Equinox for that year. Similarly, Newton, p. 24, claims to have calculated the Equinox as March 20, and states that the Equinox did not come "on March 21 in any nearby year" to A.D. 325. He also postulates that 3/21 may have been selected because 3/20 would have been "13 calends of April," a date associated with the superstition of number 13. Nonetheless, Newton (p. 26) concedes, "if the astronomers... had calculated the equinox of 324 from the values in Ptolemy's work, instead of finding it by observation, they would have got March 21 at about 22 hours." *VE.EXE* indicates that the Equinox occurred on 3/21 in A.D. 311, 315, 319 and 323, but in the latter two cases, before 1:00 A.M. (*ephemeris* time, which is approximately equal to GMT). One might wonder again whether Vlastares had A.D. 325 in mind when making the statement in §7.17.14, even as he appears in §7.17.13 to consider A.D. 725 as the year of the Fathers. According to a plausible (but admittedly not unshakeable) interpretation of §7.18.40-42, Vlastares quotes March 22 as the Equinox date for the years A.D. 148 through 447, and March 21 for the years A.D. 448 through 748, reinforcing the argument in favor of the latter date (A.D. 725). For A.D. 725, *VE.EXE* gives the Equinox on 3/17. Of the years quoted by Vlastares, *VE.EXE* calculates the Equinox on 3/21 only for A.D. 148.

434. Vlastares hints to the existence of multiple *canonia* in circulation during the Byzantine period. It is possible that some of these were merely tabulations for a specific series of years, while others purported to be of perpetual validity. It is very likely that one of the *canonia* reviewed by Vlastares was the one attributed to St John of Damascus (Migne, *PG* 95:239-242), which seems to have been the source of Vlastares' own *Canonion* B, since it is essentially identical to it, and dates from approximately A.D. 725, Vlastares' main reference year.

435. i.e., on or after March 21.

436. This *Canonion* was presumably similar to Vlastares' *Canonion* A, but it only contained the first two columns, pertaining to the years 6233 to 6251 MEC, or A.D. 725 to 743. Vlastares is claiming here that his own *Canonion* A is

simply an augmented version of this earlier *Canonion* created by "the Fathers." Rhalles and Potles insert *Canonia* A and B between their pages 420 and 421, i.e., within §7.17. Migne includes Latin and Greek versions of *Canonion* A in Columns 87-90, and of *Canonion* B in Columns 91-94, i.e., between §7.15 and §7.15a, respectively.

437. Since the discussion is about the full moon, one would be justified in expecting a reference to 304 rather than 300 years. In any case, this provides a measure of the time frame that Vlastares had in mind: he was concerned with an immediate practical problem, and it appeared to him that it would not get much worse for another 300 years. As it turned out, the Gregorian reform of A.D. 1582 came about 250 years after the publication of the *Syntagma*. Vlastares misguidedly considered the full moon dates rather than the Equinox as the main problem, because he had underestimated the rate at which the Equinox was occurring earlier and earlier, as one day in 300 years, instead of 1 day in 128 years. I have performed a statistical comparison between the dates of the astronomical Paschal full moon, as tabulated by Goldstine and the dates of the ecclesiastical Paschal full moon, as given in *Canonion* B (*Nomikon Faska*), for years near A.D. 31, 325, 725 and 1335. In each case, I have considered three complete 19-year cycles (57 years), as follows: 1 B.C.–A.D. 56, A.D. 304–360, 703–759 and 1311–1367. I have found the average discrepancy of (ecclesiastical-astronomical) Paschal full moon to be as follows: *c.* A.D. 19 = -2.28 days; *c.* A.D. 323 = -1.37 days; *c.* A.D. 722 = -0.19 days; *c.* A.D. 1330 = +1.86 days. These data suggest that beginning in A.D. 779 "the *Nomikon* Pascha [occurred] during the [astronomical] full moon of the first month;" beginning in A.D. 1127 "after one day;" beginning in A.D. 1372, "after two days;" and beginning in A.D. 1668, "after three days;" but beginning in A.D. 448, "the *Nomikon* Pascha [occurred] not during the [astronomical] full moon of the first month but one day [*before*];" and beginning in A.D. 113, "two days [*before*]." These figures corroborate Vlastares's assertions, but the source of the inconsistency noted in the three days added to the epacts versus the two days added to the Paschal full moon (see §§7.10.9n; 7.13b.10n; 7.17.44n) remains obscure. The data provide additional support to the year of A.D. 725 as the "year of the Fathers." Additional analysis of their significance is warranted, preferably including the use of Ptolemy's algorithms. Cf. analysis of epact data in §7.10.6n.

438. =dates.

439. Vlastares' weak argument in defense of the Holy Fathers appears to be that they had checked the cycle over only 300 years, whereas the anomaly crept in after 304 years; that by his own day (1335-725=610≈2x304), the discrepancy was causing a predictable difference of only one or two days, which in any case was just as well; and that the Fathers knew about that, too.

440. Possibly, =as long as.

441. =out of place, strange, odd, eccentric, unnatural, foul.

442. =offend, treat with indignity, outrage, maltreat, cause ruin to.

443. See also §7.2.41.

444. See also §§7.2.34, 40; 7.3.18; 7.13b.10; 7.17.29; 7.18.48.

445. Elsewhere, 304 years. Vlastares confuses here the rate related to the full moons (1 day per 304 years) to that associated with the Equinox (1 day per 300 years). Cf. §§7.2.37, 39; 7.10.5; 7.17.34, 35, 46; 7.18.53.

446. Vlastares identifies here the predicted Paschal full moon with the *Nomikon* Pascha. He assumes that the Jews should celebrate on the astronomical full moon, and that the astronomical full moon occurs always before the predicted ecclesiastical Pachal full moon. See also §7.17.37, 44.

447. i.e., the ecclesiastical Paschal full moon (identified here with the *Nomikon* Pascha) occurs two days after the astronomical counterpart. This statement provides a measure of Vlastares' error tolerance: an error of one or two days ("every now and then") in the full moon prediction could delay the Holy Pascha by a week (until "the very next [Sunday]"), but this was acceptable as "it would not offend piety." See also §7.17.24-25.

448. i.e., that the Holy Pascha should be celebrated on the very first Sunday following the full moon after the vernal Equinox.

449. The argument made here is that one violated stipulation by one week is not offensive enough. In modern-day practice, the violation can amount up to five weeks. One may wonder whether Vlastares would have considered that offensive enough.

450. The assertion here is that the predictions of the *Canonion* were precise between A.D. 725 and 1029. In contrast, "one day was added" between A.D. 1029 and 1333, and "two days were [or will be] added" from A.D. 1333 and 1637. These values appear supported by the data presented in *Canonion* A under the Column headed by A.D. 725, when compared to the *Nomikon Faska* dates in *Canonion* B, but contradict the discussion in §7.10.8-11, where "four days were [or will be] added" from A.D. 1333 and 1637. It is possible that the present section constitutes Vlastares' early assessment of the precision of the *Canonion*, whereas §7.10 constitutes a subsequent, more thorough reconsideration of the phenomena.

451. The reference here is to the feast of Palm Sunday, commemorating Jesus' triumphant entry into Jerusalem (Jn 12:1-18), and celebrated in the Orthodox Church on the Sunday before the Holy Pascha. A footnote in Rhalles and Potles indicates that "of the Palms" is replaced by "of the Hebrews" in Manuscript 1375 (A.D. 1541).

452. =full surely, naturally.

453. =just now, exactly, precisely. See also §7.2.22. Vlastares knows only of a one-week delay in the celebration of the Christian Pascha, and nothing of the five-week delay that sometimes occurs in modern-day practice.

454. =agitates, throws into great trouble.

455. =the masses.

456. =transgressed, broken, neglected.

457. See §7.17.30.

458. =adhered to successfully.

459. Vlastares explicitly admits here that the application of the *Canonion* of "the Fathers" in his day is not entirely in accordance with their original intent.

460. See also §§§7.2.26, 34, 39, 43; 7.16.1; 7.17.10, 14, 35, 45; 7.18.46, 49; 7.26.2.

461. The fact remains, however, that the explanation of "1 day in 300 years" does reflect a "lack scientific knowledge," which was simply non-existent at the time.

462. =to astronomy. Vlastares evidently glosses over the fact that the task of the astronomer includes the prediction of even the "arbitrary misbehavior" of the luminaries.

463. =lights of heaven.

464. See also §§7.2.34, 40; 7.3.18; 7.13b.10; 7.17.21; 7.18.48.

465. =recurs through.

466. i.e., the occurrences of the full moon. See also §§7.2.36.

467. =minutes.

468. See also §§7.2.36; 7.5.15; 7.10.4. The statement is that Vlastares considers 235 lunar months to be shorter than 19 solar years (by almost 90 modern minutes), and conversely, that 19 solar years are longer than 235 lunar months by the same amount, which accumulates to almost a day in 304 solar years.

469. The use of zero (Gr. οὐδέν, literally, not even one) by Vlastares is noteworthy. See also §7.2.37.

470. Literally, taken.

471. Here, Vlastares alludes to astronomical calculations of his own. See also §§7.17.38; 7.18.26.

472. See also §§7.2.26, 34, 39, 43; 7.16.1; 7.17.10, 14, 28, 45; 7.18.46, 49; 7.26.2.

473. 16x19 = 304.

474. A.D. 1029 = 6537-5508. Note that 725 + 304 = 1029, and that if 725 to 743 is the first 19-year period, and 744 to 762 is the second, etc., then 1029 to 1047 is the seventeenth. This establishes firmly A.D. 725 as the "year of the Fathers" according to Vlastares.

475. =earlier, before. As noted earlier in §7.17.22, the astronomical full moon occurs before the Paschal full moon predicted by the *Canonion*. According to a statistical analysis discussed in §7.17.17n, Vlastares' assertions are corroborated by astronomical full moon data provided by Goldstine. A more detailed re-examination of the data in *Canonion* A is described in Endnote c to that tabulation, where the typical discrepancy between the astronomical values by Vlastares and those by Goldstine is found to be 6 hours.

476. Vlastares demonstrates here his erudition in astronomical calculations. For a long list of other Byzantine astronomers of the period A.D. 400 to 1200–lay, clerical or professional–including fellow canoninst Ioannes Zonaras, see Newton, pp. 520-532. See also Tihon, A. (1994), *L'Astronomie byzantine (du Ve au XVe siècle)*, in "Études d'astronomie byzantine," Variorum, Aldershot, Hampshire, Great Britain, pp. I.603-I.624; and Tihon, A. (1994), *Enseignement scientifique à Byzance*, in "Études d'astronomie byzantine," Variorum, Aldershot, Hampshire, Great Britain, pp. IX.89-IX.108.

477. =corresponding conjunctions and oppositions of the moon. See also §§7.2.48; 7.17.43.

478. =the year 6537, or A.D. 1029.

479. 6537+304 = 6841, or A.D. 1333. This 19-year period ends in A.D. 1351. See also reference to this year in §7.18.51.

480. Here, Vlastares alludes to additional astronomical calculations of his own. See also §§7.17.35; 7.18.26.

481. Here, Vlastares is extrapolating to perpetuity from a data set of 38 years! Moreover, he ignores the accumulating error in the Equinox, possibly because he assumes it is identical to the error in the full moon, as suggested by his confusion concerning the rates related to the early occurrences of the full moons and of the Equinox, respectively (see §7.17.21n).

482. There is a hint to a calendrical adjustment advocated by Vlastares. There seems to be an inconsistency between the two days added "recently" to the Paschal full moon mentioned here, and the four days added to the *themelios* after A.D. 1333 referred to in §7.10.10. This incongruity is examined through statistical analyses in §7.10.6n and §7.17.17n, respectively, which corroborate Vlastares' assertions, but its causes remain obscure. Moreover, it is not obvious why one day is calculated (§7.17.41) but two are added (§7.17.44). See also 7.17.24n.

483. =wait until.

484. =by the.

485. See also §§7.2.26, 34, 39, 43; 7.16.1; 7.17.10, 14, 28, 35; 7.18.46, 49; 7.26.2.

486. =the astronomical full moon.

487. Literally, has become backward tending.

488. See §§7.2.37, 39; 7.10.5; 7.17.34, 35; 7.18.53.

489. Cf. §7.17.21, 300 years.

490. See also §§7.2.40; 7.18.48.

[*7.18*] *Περὶ τῆς ἐαρινῆς ἰσημερίας.*

<1>Ἀλλ᾽ οὐδὲ τὰ τῆς ἰσημερίας ἐπὶ τῆς αὐτῆς ἕστηκεν ἡμέρας ἀεί. <2>Ἐπεὶ γὰρ τὴν ἐπὶ τοῦ λοξοῦ διὰ μέσου τῶν ζωδίων ἰδίαν κίνησιν βραδέως ποιεῖται ὁ ἥλιος, ὡς εἶναι τὴν μίαν αὐτοῦ ἀποκατάστασιν, τὸν ὅλον ἐνιαυτόν, <3>τῷ δὲ παντὶ ἰσοταχῶς σχεδὸν συμπεριπολεῖ, ὥστ᾽ ἐν μιᾷ περιστροφῇ τὸ νυχθήμερον ἔγγιστα ποιεῖν, <4>ὅταν ἄρα ἐπὶ τῶν κοινῶν τομῶν γένηται, τοῦ τε οἰκείου καὶ τοῦ μεγίστου τῶν παραλλήλων, <5>ἴσην ἐξ ἀνάγκης πανταχοῦ κατ᾽ ἐκείνην τὴν περιστροφὴν τὴν ἡμέραν ποιεῖ τῇ νυκτί. <6>Τοῦ γὰρ μεγίστου τῶν παραλλήλων κύκλου ἴσα τμήματα ἔχοντος, τό τε ὑπὲρ γῆν, καὶ τὸ ὑπὸ γῆν, <7>ὅταν ἐπ᾽ αὐτοῦ ὢν ὁ ἥλιος, τὴν μετὰ τοῦ παντὸς ποιῆται περιστροφήν, τῷ ὑπὸ γῆν χρόνῳ ἴσον ποιεῖ τὸν ὑπὲρ γῆν ἐξ ἀνάγκης· <8>τὰ γὰρ ὁμαλῶς κινούμενα, ἐν ἴσῳ χρόνῳ τὰ ἴσα διεξέρχεται διαστήματα. <9>Διὰ ταύτην οὖν τὴν γινομένην ἐπ᾽ αὐτοῦ ἰσότητα τῆς νυκτὸς πρὸς τὴν ἡμέραν, αὐτὸν μὲν ἰσημερινὸν ὀνομάζουσι κύκλον, <10>τὰ δὲ κοινὰ σημεῖα αὐτοῦ τε καὶ τοῦ λοξοῦ, καθ᾽ ἃ αἱ τῶν νυχθημέρων ἰσότητες γίνονται, ἰσημερινά, <11>ἰσημερίαν δὲ τὴν ὥραν, ᾗ πρῶτον τοῦ ἡλίου τὸ κέντρον ἐπὶ τῆς κοινῆς τομῆς γίνεται τῶν εἰρημένων δύο κύκλων· <12>δύο δέ εἰσι τὰ ἰσημερινὰ ταῦτα σημεῖα, <13>τό τε φθινοπωρινόν, τὸ κατ᾽ ἀρχὴν τοῦ ζυγοῦ κείμενον, ἐν ᾧ γίνεται ὁ ἥλιος ἀπὸ τῶν βορείων ἐπὶ τὰ νότια διερχόμενος, <14>καὶ τὸ ἐαρινόν, τὸ κατ᾽ ἀρχὴν τοῦ κριοῦ θεωρούμενον, ᾧ τινι τὸ τοῦ ἡλίου κέντρον συνέρχεται, ἀπὸ τῶν νοτιοτέρων ἐπὶ τὰ βόρεια κινομένου· <15>καὶ ἡ ὥρα ἐκείνη, ἐαρινὴ καλεῖται ἰσημερία, μεθ᾽ ἣν ὁ θεῖος νόμος, τὸ Πάσχα ἐπιτελεῖσθαι κελεύει. <16>Κατὰ μὲν οὖν τὴν τοῦ παντὸς φύσιν, ἐν τῷ αὐτῷ χρόνῳ τὰ τῆς ἰσημερίας ἀεὶ γίνεται, διὰ τὸ ἴσον εἶναι ἀεὶ τὸ μέγεθος τοῦ ἐνιαυσίου χρόνου· <17>κατὰ δὲ τὸν ἑκάστοτε γινόμενον πρὸς τὴν γῆν τῶν οὐρανίων σχηματισμόν, καὶ κατὰ τὸ μέτρον τῶν ἡμερῶν τε καὶ μηνῶν, ᾧ κατὰ Ῥωμαίους ἡμεῖς χρώμεθα, <18>οὔτε κατὰ τὴν αὐτὴν ὥραν, οὔτε κατὰ τὴν αὐτὴν ἡμέραν συμβαίνει ἀεὶ τὴν ἰσημερίαν γίνεσθαι. <19>Ἐπεὶ γὰρ ἡ ἐνιαύσιος ποσότης πρὸς ταῖς τξε′. ἡμέραις καὶ τέταρτον ἔγγιστα προσλαμβάνει, <20>ὅταν ᾖ ἡ ἰσημερία περὶ μεσημβρίαν, τὸ μὲν ἑξῆς ἔτος ἔσται περὶ δύσιν ἡλίου, τὸ δὲ ἑξῆς, περὶ μέσας νύκτας, καὶ οὕτω μέχρι παντός· <21>ἐντεῦθεν γὰρ καὶ

[*7.18*] *About the Spring Equinox.*[491]

<1>Nor are the [occurrences] of the Spring Equinox appointed always on the same day[492] [in the Roman calendar]. <2>For while the sun makes his own slow motion along the ecliptic[493] through the zodiac signs, which constitutes his sole recapitulation, [that is to say] the entire year, <3>and patrols about along with the universe[494] at an almost constant speed, such that in one revolution he creates most approximately the day-and-night [cycle], <4>when, therefore, he comes upon the common sections, of both his own[495] and of the greatest among the parallels,[496] <5>by necessity during that particular revolution he makes the day equal to the night everywhere. <6>For since the greatest cycle among the parallels has equal sectors, one above the earth and the other below the earth, <7>when the sun makes the revolution along with the universe[497] while being directly over it,[498] he makes the time [he spends] below the earth equal to that above the earth by necessity. <8>For steadily moving [bodies] traverse in the same amount of time the same [space] interval.[499] <9>On account of this equality of the day and the night which occurs on it,[500] they call on the one hand this circle the Equator, <10>and on the other hand the common points between it and the ecliptic, at which the equalities of the day and the night occur [they call] equinoctials, <11>and Equinox [they call] the hour at which the center of the sun first comes upon the common intersection of the two mentioned circles. <12>Now, these equinoctial points are two: <13>the Autumnal one, which lies at the beginning of Libra,[501] (423) which the sun comes upon as he passes from the northern to the southern [regions]; <14>and the Spring one, which is observed at the beginning of Aries,[502] with which the center of the sun coincides, as he[503] moves from the more southern toward the northern [regions]. <15>And that particular hour is called the Spring Equinox, after which the divine Law commands[504] the Pascha is to be celebrated. <16>Well, in accordance with the nature of the universe, the [occurrences] of the Equinox happen always at the same time,[505] because the length of the annual time is always the same. <17>Yet, in accordance with the configuration of the celestial [bodies] [relative]

ἡ τοῦ βισέκτου ἡμέρα εἰς δ′. ἐνιαυτοὺς προσαπαρτίζεται· <22>ἐπεὶ δ’ αὖθις ἡ ἐπὶ τξε′. ἡμέραις ἐπουσία οὐχ ὅλον τέταρτον ἡμέρας περιέχει, ἀλλὰ παρὰ τριακοσιοστόν, <23>ἡμεῖς δὲ τῷ τῶν ἡμερῶν καὶ μηνῶν ἀριθμῷ κατὰ Ῥωμαίους χρώμεθα, ὡς τοῦ τετάρτου ἀεὶ τελείου προσγινομένου, <24>καὶ διὰ τοῦτο κατὰ τέσσαρας ἐνιαυτοὺς μίαν ἡμέραν ταῖς τξε′. προστίθεμεν, συμβαίνει ἐξ ἀνάγκης μετὰ τ′. ἐνιαυτοὺς πρὸ μιᾶς ἡμέρας γίνεσθαι τὴν ἰσημερίαν· <25>οἷον, ἐπεὶ κατὰ τὸ παρὸν ἡ ἰσημερία γίνεται τῇ ιη′. Μαρτίου, μετὰ τ′. ἔτι ἔσται τῇ ιζ′. εἶτα μετὰ ἕτερα τοσαῦτα τῇ ις′. καὶ οὕτως ἀεί. <26>Ἡ μὲν οὖν κατὰ τὸ ,δρνς′. ἔτος ἀπὸ κτίσεως κόσμου ἐαρινὴ ἰσημερία ἐπιλελόγισται ἡμῖν γεγονυῖα Μαρτίου κζ′. κατὰ μεσημβρίαν· <27>λέγω δὲ μεσημβρίαν, κατὰ τὸν δι’ Ἀλεξανδρείας μεσημβρινόν· <28>τῶν δὲ ἑξῆς, ὅσαι μὲν τοῖς τ′. ἔτεσιν ἀλλήλων διαφέρουσιν, ἑκάστη πρὸ μιᾶς τῆς πρὸ αὐτῆς ἡμέρας κατὰ τὴν αὐτὴν ὥραν γίνεται, <29>ὡς προτέτακται ἐν τῷ διαγράμματι· <30>αἱ δὲ μεταξὺ τούτων ἰσημερίαι, τοῖς μεταξὺ διαστήμασι δηλονότι γίνονται. <31>Εἰ δὲ καὶ σαφέστερα βούλει γνῶναι τοῦ χρόνου σημεῖα, <32>ἐν μὲν τοῖς χρόνοις Ναβουνασάρου, περὶ λῆξιν ἑσπερίαν ἦν ἡ ἰσημερία τῆς τοῦ Μαρτίου πέμπτης καὶ εἰκοστῆς, <33>ἐν δὲ τοῖς Φιλίππου τοῦ Ἀριδαίου, περὶ μεσημβρίαν τῆς κδ′. αὐτοῦ,

to the earth that arises on each occasion, and in accordance with the enumeration of both the days and of the months that we employ in accordance with the Romans, <18>neither *[101]* at the same hour,[506] nor on the same day does the Equinox always happen to occur. <19>For because the annual quantity [of time] stretches over 365 days and a quarter most approximately, <20>when the Equinox is around noon [in a particular year], in the following year [the Equinox] will be around sunset,[507] and in the following [year] around midnight, and thus until for ever. <21>For it is from here also that the day of the leap [year] is accumulated in four years.[508] <22>Because again the [day] appended to the 365 days does not contain the entire quarter of a day, but [is short] by one three-hundredth[509] [of a day], <23>yet we employ the numbering of days and months in accordance with the Romans, as if the quarter was perfectly accrued, <24>and for this reason we keep adding every four years one day to the 365, it happens by necessity that after 300 years,[510] the Equinox occurs one day too early.[511] <25>For example, because at present the Equinox occurs on the 18th of March,[512] after 300 years it will be on the 17th, and after another [period] of the same number [of years] [it will be] on the 16th, and thus always.[513] <26>Well, the Spring Equinox during the year 4156 from the creation of the world[514] has been calculated by us[515] to have occurred on the 27th of March, at noon. <27>And I say noon, in accordance with the meridian through Alexandria.[516] <28>Of the [Equinoxes] that follow, as many as differ from each other by 300 years, each one occurs one day before the date[517] prior to it, at the same hour,[518] <29>as previously arranged in the diagram.[519] <30>And the Equinoxes between these occur quite clearly at the intermediate intervals.[520] <31>If you should desire to know more specifically the instants of time [at which the Equinoxes occur], <32>on the one hand in the age of Nabonassar[521] the Equinox was around the end of the afternoon of the 25th of March **(424)**, <33>and on the other hand during the age of Philip the[522] Arrhidaeus,[523] [it was] around noon of its[524] 24th.

<34>	ἔτη ἀπὸ κτίσεως Κόσμου		ἰσημερίαι κατὰ τὸν Μάρτιον.
<35>	,δρνς′.	.....	κζ′.
<36>	,δυνς′.	.....	κς′.
<37>	,δψνς′.	.....	κε′.
<38>	,ενς′.	.....	κδ′.
<39>	,ετνς′.	.....	κγ′.
<40>	,εχνς′.	.....	κβ′.
<41>	,εϡνς′.	.....	κα′.
<42>	,ϛσνς′.	.....	κ′.
<43>	,ϛφνς′.	.....	ιθ′.
<44>	,ϛωνς′.	.....	ιη′.

<45>ἐν αἷς δὲ ἡμέραις ὁ Χριστὸς τῷ οἰκείῳ θανάτῳ τὸν θάνατον ἐθανάτου, τρίτην καὶ εἰκοστὴν διανύοντος αὐτοῦ, περὶ μέσην ἐκείνην τὴν νύκτα· <46>ὅτε δὲ τὸ τῶν Πατέρων τουτὶ κανόνιον ἐγεγόνει, τῇ α′. τούτου καὶ κ′. τὰ τῆς ἰσημερίας ἀπήντα· <47>νῦν δ᾽ ἐφ᾽ ἡμῶν, ὡς δεδήλωται, ἡ ιη′. ταύτην ὁλοσχερῶς ὁρᾷ γινομένην· <48>τοιαύτην ἀνωμαλίαν ἡ ἐπὶ τῇ τῶν φωστήρων κινήσει βραχυτάτη ἔλλειψις κατὰ μικρὸν προσγινομένη ἀπέτεκε, καὶ τὰ φῶτα ὀπισθόρμητα γίνεσθαι παρεσκεύασεν. <49>Οὐ μὴν παρὰ τοῦτο μεταποιεῖν τὸν τῶν Πατέρων προσήκει κανόνα· <50>οὔτε γὰρ οἷόν τε συνθεῖναι ἕτερον, οὕτω σαφῶς δεικνύντα τοῖς πᾶσι τοὺς εἰρημένους περὶ τὸ πάσχα διορισμούς· <51>ἀλλὰ καὶ ἢν ἐθελήσαιμεν, ὥς τινες, μεταθεῖναι, δυσὶν αὐτὸν ἡμέρας ὑποβιβάσαντες, ἀρξάμενοι δηλονότι ἀπὸ τοῦ ,ϛωμα′. ἔτους, <52>πρὸς τῷ μηδὲ πάντας δυνατὸν εἶναι τοὺς ἀνὰ πᾶσαν τὴν οἰκουμένην τὰ Χριστιανῶν πρεσβεύοντας πεῖσαι μεταμαθεῖν αὐτόν, <53>ἔτι καὶ μετὰ τδ′. πάλιν ἔτη, καὶ αὖθις μετὰ τοσαῦτα, καὶ ἀεὶ οὕτως ἡ αὐτὴ παρακολουθήσει ἁμαρτία, <54>καὶ δεήσει πολλάκις τοῦτον μεταποιεῖν, ὥστε βέλτιον μὴ καινοτομεῖν· <55>ἡ γὰρ τοιαύτη καινοτομία οὐ μόνον οὐ δυνήσεται μὴ τῇ αὐτῇ πάλιν περιπεσεῖν ἁμαρτίᾳ, ἀλλὰ καὶ στάσεως οὐ μετρίας τῇ Ἐκκλησίᾳ γενήσεται πρόξενος. <56>Νῦν δὲ καὶ οὕτως ἔχοντος τοῦ κανόνος, τὰ καιριώτερα τῶν ὀφειλομένων περὶ τὸ Πάσχα τηρεῖσθαι, δι᾽ αὐτοῦ βεβαίως τηροῦνται, <57>τὸ μετ᾽ ἰσημερίαν δηλονότι, καὶ τὸ μετὰ τὴν πανσέληνον, τὴν μετ᾽ ἰσημερίαν,

<34>Years since the Creation of the World[525]	Equinoxes during March
<35>[Beginning with] 4156 [1353 BC]	27[526]
<36>4456 [1053 BC]	26
<37>4756 [753 BC]	25[527]
<38>5056 [453 BC]	24[528]
<39>5356 [153 BC]	23[529]
<40>5656 [AD 148]	22[530]
<41>5956 [AD 448]	21[531]
<42>6256 [AD 748]	20
<43>6556 [AD 1048]	19[532]
<44>6856 [AD 1348]	18[533]

<45>And in those days when Christ through his own death was putting death to death,[534] this [month of March] was spending its 23rd day,[535] around the middle of that night.[536] <46>And when this *canonion* of the Fathers[537] itself was being created, the [occurrence] of the Equinox was encountered on the 21st of this [month of March].[538] <47>And now upon us, as has been stated,[539] the 18th observes it[540] made in its[541] entirety.[542] <48>Such an anomaly[543] did the briefest deficiency in the movement of the luminaries, accumulating [little] by little, beget,[544] and has rendered the lights to be backward tending.[545] <49>Yet[546] despite this [phenomenon], it is indeed not appropriate to alter the canon of the Fathers.[547] <50>For it [is] not possible to compose another [canon], pointing out as clearly [as this does] the said stipulations about Pascha to all [people]. <51>But even if we were to desire, as some [did],[548] to amend [it] by *[104]* demoting it[549] by two days, starting, that is to say clearly, from the year 6841,[550] <52>not only will it not be possible to convince all those in the entire inhabited world who believe the [doctrines] of the Christians to re-learn it,[551] <53>but also after 304[552] years again, and then after as many anew, and always thus, this same error[553] will persist, <54>and it will be necessary to alter this [canon] many times;[554] and so, therefore, it is better not to innovate.[555] <55>For such an innovation will not only not be able not to fall into the same

τὰ τῆς ἑορτῆς ὑπὸ πάντων, καὶ ἐν τῷ αὐτῷ χρόνῳ, καὶ τῇ αὐτῇ ἡμέρᾳ τελεῖσθαι ἀστασιάστως. <58>Ἔτι δὲ εἰ ὀρθῶς εἶχεν ὁ περιοδικὸς οὗτος κατὰ πάντα κανών, πολλάκις ἂν συνέβαινε, τὴν ἑξῆς εὐθὺς ἡμέραν τῆς ἐκείνων ἑορτῆς ἡμῖν τὸ πάσχα τελεῖσθαι· <59>νῦν δὲ μετὰ τρεῖς τοὐλάχιστον ἡμέρας τῆς ἐκείνων ἑορτῆς ἡ ἡμετέρα τελεῖται· <60>ὅπερ ἔτι μᾶλλον τῷ Ἀποστολικῷ κανόνι συμβαίνει, τῷ διοριζομένῳ, μὴ δεῖν ἐν τῷ αὐτῷ χρόνῳ τοῖς Ἰουδαίοις τὸ πάσχα τελεῖν· <61>καὶ ἡ συμβεβηκυῖα περὶ τὸ πάσχα διαμαρτία, ὥσπερ ἐξεπίτηδες ποιεῖ τὸν τοιοῦτον ἐπιπλέον νόμον φιλάττεσθαι. <62>Ἀλλ᾽ οὐκ ἄκαιρον οἶμαι καὶ τῶν ἐπικαίρων ἤδη μνησθῆναι χρησμῶν.

NOTES:

491. As noted earlier, beginning with §7.14, all headers to the end of the Chapter are cast as a statement rather than as a question in both Rhalles and Potles, as well as Migne. With regard to the content of this section, see also §7.2, which is more suited for ordinary folk. In contrast, §7.18 is directed to a more scientifically oriented audience.

492. See also §§7.2.2; 7.18.18.

493. Literally, oblique arc. Strahler, p. 46: "The plane of the earth's orbit, known as the plane of the ecliptic, also contains the sun. When the plane is projected upon the celestial sphere as a celestial great circle, it defines the celestial ecliptic, making an angle of 23 ½° with respect to the celestial equator, which it intersects at two points, the two equinoxes. The sun is therefore at all times situated at some point on the ecliptic circle." Pasachoff, pp. 55-56: "The ecliptic is inclined by 23 ½° with respect to the celestial equator, since the earth's axis is tipped by this amount."

error again,[556] but also it will become the cause of not small a revolt in the Church. <56>At present then, the canon being what it is, the most critical[557] of the [regulations] about Pascha that ought to be kept are most assuredly kept through this [canon], <57>that is to say clearly, that the [solemnities] of the feast should be celebrated by all after the (425) Equinox and after the full moon that [occurs] after the Equinox, and at the same time and on the same day without dissent.[558] <58>Moreover, if this periodic[559] canon were correct in every way, it would often happen that among us the Pascha would be celebrated on the day immediately following their[560] feast. <59>But nowadays, after at least three days of their feast is ours celebrated. <60>This [eventuality] is in closer conformity with the Apostolic Canon,[561] which stipulates that it is not appropriate to celebrate the Pascha at the same time as the Jews. <61>And the erroneous reckoning about Pascha that has crept in, makes this kind of law to be kept even more [rigorously], as if this were done on purpose.[562] <62>But it [is] not inopportune forthwith, I think, to remember the decretals pertaining to this season.

494. Literally, along with everything else; alternatively, around the universe.

495. Migne adds parenthetically: *seu eclipticae*; =or ecliptic.

496. Migne adds parenthetically: *hoc est aequinoctialis*; =which is the equinoctial.

497. Literally, along with everything else; alternatively, around the universe.

498. =the greatest of parallels.

499. Here, Vlastares makes a statement of a scientific theorem, taken from the study of kinematics.

500. =the greatest of parallels.

501. =the Scales (Gr. Ζυγός).

502. =the Ram (Gr. Κριός). See also §§7.1.10; 7.3.5, and §7.3.5n, where it is explained that this statement is a definition, not an actual astronomical event.

503. =the sun.

504. =the Mosaic Law, but possibly also the 7th Apostolic Canon; see §7.2.19.

505. See also §7.2.1, where it is indicated in a footnote that modern astronomical calculations show that there is a small change in the time interval between successive equinoxes over the years.

506. See also §§7.2.2; 7.18.1.

507. See also §7.2.4, where support for this statement is provided in a footnote from a modern astronomy book (Strahler, p. 58). Additional support for Vlastares' statement here is derived from Equinox dates and times provided by Ptolemy, and noted above in §7.2.10n.

508. See also §7.2.7. The meaning here is that just as the excess of the annual cycle over 365 days creates the need for appending one extra day to every leap year, it also results in the early onset of the Equinox by one day every 300 years.

509. See also §7.2.5, but cf. §7.5.17n.

510. See also §§7.2.7-8; 7.18.24.

511. See also §7.2.7. To address this problem, the Gregorian reform of 1582 stipulated that it is necessary periodically to suspend "adding every four years one day to the 365 [days]," so as to compensate for the early onset of the Equinoxes. Since, however, the actual rate of the precession is closer to 3 days every 400 years (see §7.2.5n), 3 out of 4 century years (i.e., those not divisible by 400) were declared to be regular rather than leap years. For example, 1700, 1800, 1900, 2100 and 2200 are no longer leap years, but 1600, 2000 and 2400 are still leap years. See Tondering, §2.2.1.

512. See also §7.2.8, 13. In contrast, Nicephorus Gregoras, *Byzantine History*, Oration 8, Chapter 13 (Niebuhr, p. 366) records the Equinox for "our own [age] now" as March 17. *VE.EXE* gives March 13 as the Equinox for A.D. 1335, i.e., 5 days earlier than the date given by Vlastares.

513. §7.18.22-25 repeats almost verbatim §7.2.5-9.

514. 1353 B.C. = 4156-5508-1. Note that the subtraction of an extra year compensates for the fact that there is no year 0, i.e., the year preceding A.D. 1 is 1 B.C. A possible interpretation for the choice of this year is suggested in §§7.18.35n, 44n.

515. Once again, Vlastares demonstrates his own astronomical calculation skills; see also §§7.17.35, 38. The date of this Equinox, as well as those in the "diagram" of §7.18.34-44 are found neither in the *Almagest*, nor in Gregoras' *Byzantine History*. Based on the data presented by Ginzel (Vol. 1, p. 101), I estimate the Equinox of 1353 B.C. to have occurred on April 2, i.e., six days later than the date given by Vlastares.

516. This suggests that Vlastares employed Ptolemy's algorithms in his own calculations.

517. Literally, day. The meaning of this statement is clear enough even if the syntax employed is rather awkward.

518. This is consistent with Vlastares' assertion of a six-hour difference in the Equinoxes from year to year (see §§7.18.20; 7.2.4, as well as Strahler, p. 58), since 300 (and 304) are divisible by 4.

519. The "diagram" referred to here is evidently §7.18.34-44, which must have been presented above §7.18.29 in the original manuscript.

520. The meaning of this statement is that the "diagram" lends itself for interpolation, thereby allowing the determination of the Equinox in any year desired.

521. King of Assyria and Babylonia, whose reign started in 747 B.C. and lasted for 14 years. See also §7.2.10. Based on the data presented by Ginzel (Vol. 1, p. 101), I estimate the Equinox for 747 B.C. to have occurred on March 28, i.e., three days later than the date given by Vlastares. The three Equinox dates provided here (i.e., those associated with Nabonassar, Philip Arrhidaeus and Christ) are copied from Gregoras (Niebuhr, p. 366); see also §7.2.10-12. The original author must have had specific years in mind (e.g., perhaps the beginning of the reign of the two kings), since the time of day for each Equinox is also provided.

522. The "diagram" of Equinox dates occurs at this point in Migne. In Rhalles and Potles, it occurs after §7.18.33, as it does in my translation.

523. Philip's reign started in 324 B.C., when he succeeded Alexander the Great as King of Macedonia, and lasted for 7 years. See also §7.2.11. Based on the data presented by Ginzel (Vol. 1, p. 101), I estimate the Equinox for 324 B.C. to have occurred on March 24, i.e., on the same date as given by Vlastares.

524. =of March.

525. According to the reckoning of Byzantine years supported by Delempases (pp. 21, 461), the B.C. years in this list should be instead 1350, 1050, 750, 450, and 150. Similarly, the A.D. years should be 150, 450, 750, 1050 and 1350. It is plausible that Vlastares centered this "diagram" around the year of Christ's birth, or that he used A.D. 150 as the year of Ptolemy. See also §7.18.57n. Delempases bases his argument on the dates for Christ's birth, Christ's ascension, and the 1st Ecumenical Council given in the *Chronicon Paschale* as 5507 MEC (Migne, *PG* 92:496), 5540 MEC (Migne, *PG* 92:537-544) and 5834 MEC (Migne, *PG* 92:704), respectively. It is also plausible that Vlastares is reproducing information he somehow extracted from the *Chronicon Paschale* or some other pre-existing source.

526. Vlastares states explicitly that he had calculated the date of this Equinox himself (see §7.18.26), but he does not explain why he chose this date. It appears that the remainder of the dates in this "diagram" were obtained simply by adding 300 years to and subtracting one day from each row. See also §7.18.44n.

527. This Equinox date (3/25) agrees with the one Vlastares quotes for the reign of Nabonassar, *c*. 747 B.C. (see also §7.2.10n).

528. This Equinox date (3/24) agrees with the one Vlastares quotes for the

reign of Philip Arrhidaeus, *c.* 324 B.C. (see also §7.2.11n).

529. This Equinox date (3/23) agrees with the one Vlastares quotes for the Passion of Christ, *c.* A.D. 31. (see also §7.2.12n).

530. Cf. Nicaea, A.D. 325. According to Vlastares' list, the vernal Equinox for the years between A.D. 148 and 448 occurred on March 22. The traditional argument has been that the Equinox in A.D. 325 fell on March 21, but program *VE.EXE* results in 3/20 as the astronomical Equinox for A.D. 325; see also §7.17.14n. The interpretation of the list provided here is tentative and admittedly not unshakeable. Nonetheless, the agreement between the "diagram" thus interpreted and the Equinoxes cited by Vlastares related to Nabonassar, Philip Arrhidaeus, Christ and "the Fathers" suggests that Vlastares did not share yet another of the traditional assertions regarding Nicaea.

531. This date agrees with the one Vlastares quotes for the year of "the Fathers," A.D. 725 (see §7.18.46).

532. Cf. "At present," *c.* A.D. 1335. Again, Vlastares' list indicates that the vernal Equinox for the years between A.D. 1048 and 1348 occurred on March 19, not on March 18 as he states in the main text. This may indicate that the current year implied is A.D. 1348 or later.

533. It is plausible that Vlastares started with A.D. 1348 (current year?) and subtracted increments of 300 years from it, arriving back to 1353 B.C. for which he had enough information from Ptolemy to calculate the Equinox date as March 27. From that, he filled the rest of the dates by subtracting a day from each row. Thus, he obtained March 18 as the "current" date, which disagrees with the corresponding date of March 17 recorded by Gregoras. See §7.18.25n. Using Ginzel (Vol. 1, p. 101) and the software *VE.EXE*, I attempted to verify these Equinox dates, using the former for the B.C. years and the latter for the A.D. dates. Vlastares's Equinox dates are given in parentheses: 1353 B.C., 4/2 (3/27); 1053 B.C., 3/30 (3/26); 753 B.C., 3/28 (3/25); 453 B.C., 3/25 (3/24); 153 B.C., 3/23 (3/23); A.D. 148, 3/21 (3/22); A.D. 448, 3/19 (3/21); A.D. 748, 3/16 (3/20); A.D. 1048, 3/14 (3/19); A.D. 1348, 3/12 (3/18). It is observed that Vlastares agrees precisely only for 153 B.C., a year near Hipparchus' observations, illustrating Vlastares' dependence on Ptolemy and Ptolemy's dependence on Hipparchus; see also §7.2.12n. These calculations may also suggest that 153 B.C. was the beginning year for Vlastares' "diagram" of Equinox dates, from which the other dates were estimated by adding or subtracting one day per 300 years.

534. This phrase echoes the celebrated Resurrection hymn "Christ is risen from the dead, trampling down death by death, and to those in the tombs He is bestowing life."

535. See also §7.2.12. A.D. 31.

536. §7.18.32-33, 45 is essentially the same as §7.2.10-12.

537. See also §§7.2.26, 34, 39, 43; 7.16.1; 7.17.10, 14, 28, 35, 45; 7.18.49; 7.26.2.

538. See also §7.17.14. Applies to A.D. 725. Vlastares' "diagram" suggests March 22nd for A.D. 325. As noted in §7.17.13n, Vlastares assumes that the "age of the Fathers" is A.D. 725, not A.D. 325.

539. See also §§7.2.8; 7.18.25. A.D. 1335.

540. Vlastares' "diagram" suggests March 19th for A.D. 1335 (unless "the present" is after A.D. 1348). It is plausible that this implies that the second document incorporated into Chapter 7 *About the Holy Pascha* was composed in or after A.D. 1348. In contrast, Nicephorus Gregoras, *Byzantine History*, Oration 8, Chapter 13 (Niebuhr, p. 366) records the Equinox for "our own [age] now" as March 17. See also §§7.2.8, 13; 7.18.25. Modern astronomical calculations, however, show that the Equinox may vary by a day from one year to the next, such cycling being amended by the introduction of a leap day every four years (Strahler, p. 58); cf. §7.2.4n.

541. =the Equinox.

542. §7.18.47 is essentially the same as §7.2.13. The use of the phrase "in its entirety" seems out of place for the Equinox, but may suggest that Vlastares was thinking about the full moon, on account of his confusion concerning these two phenomena.

543. See also §§7.2.34, 40; 7.3.18; 7.13b.10; 7.17.21, 29.

544. See also §§7.2.40; 7.17.47.

545. It is actually the predictions that are "forward tending." §7.18.48 is essentially the same as §7.2.40. Vlastares confuses the delay in the Paschal full moon and in the Spring Equinox; see also §§7.10.5; 7.18.47, 53.

546. At this point, the discussion changes from astronomy to an *apologia* for the *Canonion* of the Fathers.

547. See also §§7.2.26, 34, 39, 43; 7.16.1; 7.17.10, 14, 28, 35, 45; 7.18.46; 7.26.2.

548. Vlastares is probably referring to Nicephorus Gregoras and his calendrical reform proposal a few years earlier (*c.* A.D. 1324); cf. §7.1.4n. See Nicephorus Gregoras, *Byzantine History*, Oration 8, Chapter 13 (Niebuhr, p. 368): "It would indeed be easy, if we were determined to perform the correction, by performing a subtraction of just over two days."

549. The subtraction proposed by Gregoras was evidently to be applied to each of the *Nomikon Faska* dates in *Canonion* B, thereby implicitly 'demoting' the Equinox from 3/21 to 3/19, as well. A *Canonion* revised in this fashion is presented by Isaac Monachus Argyros (*c.* A.D. 1371), *Migne*, PG 19:1313-1316.

550. A.D. 1333 = 6841-5508. See also reference to this same year in §7.17.41. This year is presumably chosen because it is close to the "current" year of A.D. 1335, and it is 2x304 years from the year of the Fathers (A.D. 725+304=1029; 1029+304=1333). Evidently, Vlastares applies the early onset drift in the astronomical Paschal full moon to the similar discrepancy noted in the Spring Equinox. The year A.D. 1333 also appears at the head of one of the Columns of

Canonion A, at the start of a 19-year lunar cycle.

551. Vlastares was presumably aware that the Orthodox Christians did not inhabit the entire *ecumene*, and for this reason his reference to those "who believe the [doctrines] of the Christians" must be interpreted as inclusive of the Roman Catholics. It is plausible that his concern about a schism in the Church was related to a possible exacerbation of the conflicts between the Orthodox and the Catholics, in view of on-going dialogues in his days for the re-union of the Churches, or at least to a split within the Orthodox Church and a weakening of her unified stand in these negotiations.

552. See also §§7.2.37, 39; 7.10.5; 7.17.34, 35, 46. The reference to 304 rather than 300 years seems out of place in this discussion about the Equinox, and again hints that Vlastares confuses the delay in the Paschal full moon and in the Spring Equinox. See also §§7.10.5; 7.18.47, 48.

553. =sin.

554. Vlastares is correct in predicting this: following the Gregorian reform of A.D. 1582, the *Paschalion* (strictly, the list of epacts of the moon in the Metonic cycle) is adjusted at the beginning of most centuries. On account of the improved means of communication, however, this change causes none of the problems Vlastares had been concerned about (except the one related to concelebration with the Jews), and is transparent to most Western Christians.

555. Vlastares succinctly states here the reasons why he is opposed to calendrical reform: (a) the task is impossible to accomplish; (b) any new *Canonion* would be unconvincing and difficult to disseminate and re-learn; and (c) the error would recur. Subsequently (see §7.18.55), he also cites the possibility of schism.

556. This is how the Gregorian reform of A.D. 1582 guarded against such recurrence: The "demotion" by 10 days addressed the early onset of the astronomical Equinox, which according to *VE.EXE* occurred on 3/11 in A.D. 1582 (see also Newton, p. 25). Dropping three of four century years from the list of leap years prevents this from recurring, at least in the foreseeable future. The suggestion of the "Panorthodox" Congress of Constantinople of 1923 would preclude this recurrence essentially in perpetuity (see §7.2.5n). The early onset in the Paschal full moon was addressed by changes in the algorithm for calculating the Lunar Cycle, LC (strictly, the Golden Number, GN, which equals LC+3; see §§7.10.1n, 11n); this algorithm is nowadays readjusted at the turn of most centuries (see Heilbron, J.L. (1999), *The Sun in the Church: Cathedrals as Solar Observatories*, Harvard University Press, Cambridge, MA, pp. 42-44).

557. Literally, opportune. Vlastares admits here a relative hierarchy among the four stipulations. His main priority is unity.

558. The Paschal full moon and the Equinox are the only two stipulations reiterated here. Sunday is self-evident, being "the same day" for the universal celebration. The full moon is identified with the *Nomikon* Pascha, and suffices to avoid concelebration with the Jews. Thus, the *Nomikon* Pascha is dropped as

an independent stipulation at this point, but it is picked up again in §7.18.59, where it is addressed by the fortuitous error noted by Vlastares.

559. Gr. περιοδικός.

560. =the Jews'. Vlastares is implicitly criticizing the *Canonion* of "the divine Fathers" at this point, not recognizing that by doing so he is admitting that it is his own reasoning, which predicates the Christian Pascha on Jewish reckoning, that is at fault. This statement echoes the concerns expressed in §7.2.46; it was indicated in §7.2.46n that a most scandalous situation arises when the Hebrew Nisan 15 occurs on a Sunday, which could potentially result in Jews and Christians celebrating their nocturnal Paschal eucharistic meal during the same night. Yet, this is not explicitly precluded by the *Canonion* of "the Fathers," presumably because it caused no scandal to them. Once the so-called Zonaras' *proviso* became an accepted part of Paschal reckoning, it tended to make adherence to "the Fathers'" *Canonion* practically impossible, and gave rise to contrived explanations regarding a fortuitous error, such as Vlastares provides here.

561. =the 7th Apostolic Canon. See also §§7.2.19, 26, 28; 7.17.2. Concerning concelebration "with the Jews," see also §§7.2.19, 29; 7.4.10; 7.17.5; 7.19.2.

562. The *culpa felix* argument made here is, of course, contrived.

[*7.19*] *Συνόδου Ἀντιοχείας α΄.*

<1>Ὁ α′. τῆς ἐν Ἀντιοχείᾳ Συνόδου κανών, Ὅρον, φησίν, ἐξενήνοχεν ἡ ἐν Νικαίᾳ πρώτη Σύνοδος, ὑπ᾽ ὄψιν τοῦ εὐσεβοῦς βασιλέως Κωνσταντίνου, <2>τὴν τοῦ ἁγίου Πάσχα τελετὴν μὴ συνάμα τοῖς Ἰουδαίοις τοὺς Χριστιανοὺς ἄγειν, <3>ἀλλ᾽ ὥσπερ τοῖς νόμοις καὶ τῷ φρονήματι, οὕτω καὶ τῷ διαλλάττοντι τῶν ἡμερῶν τούτων ἀποδιΐστασθαι· <4>τοὺς δὲ τὸν ὅρον ἐκεῖνον παραλύειν τολμῶντας κληρικούς, καὶ οὕτω τὸν λαὸν πειρωμένους διδάσκειν, τῇ ἀφαιρέσει ζημιοῖ τῆς ἱερωσύνης· <5>πρὸς δέ, καὶ τοὺς τολμῶντας τούτοις μετὰ τὴν καθαίρεσιν κοινωνεῖν, οὐ μὴν ἀλλὰ καὶ τῆς ἔξω τοῦ βήματος ἀλλοτριοῦσθαι τιμῆς, τῆς ἐν τῇ καθέδρᾳ δηλαδή, καὶ τῆς ἄλλης· <6>οἱ γὰρ διὰ μέτριον πταῖσμα τῆς ἱερωσύνης ἀφῃρημένοι, τῆς περὶ τὰ ἔξω τιμῆς οὐκ εἴργονται.

NOTES:

563. The header is missing in Migne's Greek and Latin texts. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV: "Whosoever, shall presume to set aside the decree of the holy and great Synod which was assembled at Nice in the presence of the pious Emperor Constantine, beloved of God, concerning the holy and salutary feast of Easter; if they shall obstinately persist in opposing what was [then] rightly ordained, let them be excommunicated and cast out of the Church; this is said concerning the laity. But if any one of those who preside in the Church, whether he be bishop, presbyter, or deacon, shall presume, after this decree, to exercise his own private judgment to the subversion of the people and to the disturbance of the churches, by observing Easter [at the same time] with the Jews, the holy Synod decrees that he shall thenceforth be an alien from the Church, as one who not only heaps sins upon himself, but who is also the cause of destruction and subversion to many; and it deposes not only such persons themselves from their ministry, but those also who after their deposition shall presume to communicate with them. And the deposed shall be deprived

[*7.19*] *[Canon] 1 of the Synod of Antioch.*[563]

<1>The first canon of the Synod in Antioch says that the First Council of Nicaea[564] promulgated[565] an ordinance,[566] in the presence of the pious Emperor Constantine,[567] <2>that the Christians should not hold the celebration of Holy Pascha together with the Jews, <3>but just as they[568] are [distinguished from the Jews] as it regards the laws and the beliefs, in the same manner they should be separated from anyone who is reconciled with their[569] [feast] days.[570] <4>And those clerics who dare transgress that [Nicaean] ordinance, and attempt to teach the people accordingly, it[571] punishes by the removal of their priesthood. <5>In addition, those who dare commune with them after the defrocking ought to be made strangers even to the honor of standing outside the altar,[572] that is [the honor] of being in the pew[573] and of the other[574] [honor]. <6>For those who for [a][575] moderate fault have been deprived of the priesthood, do not lose the honor pertaining to the [parts] outside [the altar].[576]

even of that external honour, of which the holy Canon and God's priesthood partake." "The Synod of Antioch in Encaeniis. AD 341 … The holy and most peaceful Synod which has been gathered together in Antioch from the provinces of Coele-Syria, Phoenicia, Palestine, Arabia, Mesopotamia, Cilicia, and Isauria."

564. This is the first and only reference by Vlastares in the entire Chapter 7 *About the Holy Pascha* to the First Ecumenical Council of Nicaea (A.D. 325), whose authority is appealed to in most discussions concerning calendrical reform. Vlastares does not suggest in any way that the *Canonion* B he presents is related to the Nicaean Council, as others often do. As noted in relation to §7.2.46, the 1st Canon of Antioch is related by Vlastares to the 7th Apostolic Canon, not to any Nicaean decree on Pascha. Similarly, Zonaras refers to the 1st Canon of Antioch in his commentary on the 7th Apostolic Canon, as follows: "The same stipulation [i.e., that Pascha should not be celebrated before the Equinox with the Jews] was also commanded by the Council at Antioch in [its] First Canon, saying that it was a decree of the First [Ecumenical] Council at Nicaea concerning the feast of Pascha, even though there is not found among

the Canons of the Council at Nicaea such a Canon." See Rhalles and Potles, Vol. 2, p. 10. Zonaras also denies the existence of Nicaean decree in his commentary to the 1st Canon of Antioch (see Rhalles and Potles, Vol. 3, p. 124): "Now, among the canons of the First [Ecumenical] Council [of Nicaea] nothing at all is found ordained about the Pascha. But if apart from the canons something else was provided, I am not aware of, since I have no Acts of that Council." For his part, Valsamon also states that the Nicaean decree is not extant, but indicates its existence in the Acts of the First Ecumenical Council: "The Holy Fathers of the present Council [i.e., of 1st Antioch] say that these [regulations] concerning this very feast [of Pascha] were ordained by the First [Ecumenical] Council. Yet, among the canons of the Fathers at Nicaea this is not found. But in the Acts of the First [Ecumenical] Council it is found" (see Rhalles and Potles, Vol. 3, pp. 124-125).

565. =issued, declared.

566. =decree (Gr. ὅρος).

567. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV. On the Keeping of Easter. From the Letter of the Emperor to all those not present at the Council. (Found in Eusebius, Vita Const., Lib. iii., 18–20.):

"When the question relative to the sacred festival of Easter arose, it was universally thought that it would be convenient that all should keep the feast on one day; for what could be more beautiful and more desirable, than to see this festival, through which we receive the hope of immortality, celebrated by all with one accord, and in the same manner? It was declared to be particularly unworthy for this, the holiest of all festivals, to follow the custom [the calculation] of the Jews, who had soiled their hands with the most fearful of crimes, and whose minds were blinded. In rejecting their custom, we may transmit to our descendants the legitimate mode of celebrating Easter, which we have observed from the time of the Saviour's Passion to the present day [according to the day of the week]. We ought not, therefore, to have anything in common with the Jews, for the Saviour has shown us another way; our worship follows a more legitimate and more convenient course (the order of the days of the week); and consequently, in unanimously adopting this mode, we desire, dearest brethren, to separate ourselves from the detestable company of the Jews, for it is truly shameful for us to hear them boast that without their direction we could not keep this feast. How can they be in the right, they who, after the death of the Saviour, have no longer been led by reason but by wild violence, as their delusion may urge them? They do not possess the truth in this Easter question; for, in their blindness and repugnance to all improvements, they frequently celebrate two passovers in the same year. We could not imitate those who are openly in error. How, then, could we follow these Jews, who are most certainly blinded by error? for to celebrate the passover twice in one year is

totally inadmissible. But even if this were not so, it would still be your duty not to tarnish your soul by communications with such wicked people [the Jews]. Besides, consider well, that in such an important matter, and on a subject of such great solemnity, there ought not to be any division. Our Saviour has left us only one festal day of our redemption, that is to say, of his holy passion, and he desired [to establish] only one Catholic Church. Think, then, how unseemly it is, that on the same day some should be fasting whilst others are seated at a banquet; and that after Easter, some should be rejoicing at feasts, whilst others are still observing a strict fast. For this reason, a Divine Providence wills that this custom should be rectified and regulated in a uniform way; and everyone, I hope, will agree upon this point. As, on the one hand, it is our duty not to have anything in common with the murderers of our Lord; and as, on the other, the custom now followed by the Churches of the West, of the South, and of the North, and by some of those of the East, is the most acceptable, it has appeared good to all; and I have been guarantee for your consent, that you would accept it with joy, as it is followed at Rome, in Africa, in all Italy, Egypt, Spain, Gaul, Britain, Libya, in all Achaia, and in the dioceses of Asia, of Pontus, and Cilicia. You should consider not only that the number of churches in these provinces make a majority, but also that it is right to demand what our reason approves, and that we should have nothing in common with the Jews. To sum up in few words: By the unanimous judgment of all, it has been decided that the most holy festival of Easter should be everywhere celebrated on one and the same day, and it is not seemly that in so holy a thing there should be any division. As this is the state of the case, accept joyfully the divine favour, and this truly divine command; for all which takes place in assemblies of the bishops ought to be regarded as proceeding from the will of God. Make known to your brethren what has been decreed, keep this most holy day according to the prescribed mode; we can thus celebrate this holy Easter day at the same time, if it is granted me, as I desire, to unite myself with you; we can rejoice together, seeing that the divine power has made use of our instrumentality for destroying the evil designs of the devil, and thus causing faith, peace, and unity to flourish amongst us. May God graciously protect you, my beloved brethren."

568. =the Christians.

569. =the Jews'.

570. i.e., celebrates the Pascha with the Jews. See also §§7.2.19, 29; 7.4.10; 7.17.5; 7.18.60; 7.19.2.

571. =the 1st Canon of Antioch.

572. Gr. βῆμα.

573. =honorary seat or chair, reserved for clergy.

574. It is unclear what this "other honor" was. Although the meaning may simply be "of any other honor," the reference may be to the honor of being addressed as a priest, or of being permitted to groom one's hair in a priestly fashion

(cf. commentaries by Zonaras, Valsamon and Aristenos to 1st Canon of Antioch in Vol. 3, pp. 124–125; to 9th Canon of Neocaesarea in Vol. 3, pp. 84–87; and to 21st and 26th Canons of the Trullan Council, Vol. 2, pp. 352–354, 361–364; all of Rhalles and Potles).

575. Rhalles and Potles note in a footnote that Manuscript Γ (A.D. 1683) adds the word "τι" at this point, which could be rendered as "some" or "particular."

576. See Rhalles and Potles, Vol. 3, pp. 123–125 for the Greek text of the 1st Canon of Antioch, together with commentaries by Zonaras, Valsamon and Alexios Aristenos (d. 1150).

[*7.20*] *Συνόδου ἕκτης ξς΄.*

<1>Ὁ δὲ ξς΄. τῆς ς΄. Συνόδου, ἀπὸ τῆς ἀναστασίμου ἡμέρας ἄχρι τῆς καινῆς κυριακῆς, ἐν ψαλμοῖς καὶ ὕμνοις, καὶ ᾠδαῖς πνευματικαῖς ἑορτάζειν διακελεύεται τοὺς πιστούς· <2>καὶ ἐῤῥῶσθαι φράσαντας ταῖς ἱπποδρομίαις, καὶ ταῖς δημώδεσι θέαις, θαμινὰ τοῖς ἱεροῖς ἐπιχωριάζειν, ἀνθ' ὧν τῆς τοῦ διαβόλου δουλείας ἠλευθερώμεθα· <3>τὸν γὰρ ἀληθῆ Χριστιανὸν ἕτοιμον εἶναι δεῖ σχεδὸν ἑκάστοτε πρὸς τὴν τῶν θείων μυστηρίων ὑποδοχήν· <4>οὕτω γὰρ ἐσόμεθα συναναστάντες Χριστῷ, τῆς χαμαιζήλου καὶ γηΐνης ζωῆς, <5>καὶ συνυψωθέντες πρὸς ὑπερκόσμιον καὶ πνευματικὴν τῳόντι διαγωγήν.

<6>Ζήτει καὶ ἐν τῷ α΄. Κεφ. τοῦ Θ στοιχείου κανόνα ξα΄. τῆς ἐν Καρθαγένῃ Συνόδου.

NOTES:

577. The header is missing in Migne's Greek and Latin texts. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV: "From the holy day of the Resurrection of Christ our God until the next Lord's day, for a whole week, in the holy churches the faithful ought to be free from labour, rejoicing in Christ with psalms and hymns and spiritual songs; and celebrating the feast, and applying their minds to the reading of the holy Scriptures, and delighting in the Holy Mysteries; for thus shall we be exalted with Christ and together with him be raised up. Therefore, on the aforesaid days there must not be any horse races or any public spectacle." "THE COUNCIL IN TRULLO; OFTEN CALLED THE QUINISEXT COUNCIL. A.D. 692."

578. =the first Sunday after the Holy Pascha (Gr. Καινή =New), otherwise known as the Sunday of St Thomas. See also §7.15a.2.

579. See Rhalles and Potles, Vol. 2, pp. 460-463. This Canon is about Christian conduct, not about astronomy and computation. Vlastares returns to his main vocation of a theologian, to exhort the reader (at last!) to look for the spiritual meaning of the Holy Pascha.

580. Presumably for attending services.

581. Vlastares demonstrates here his flair for the poetic, employing a beautiful analogy and antithesis.

[*7.20*] *[Canon] 66 of the Sixth Synod.*[577]

<1>The 66th [Canon] of the Sixth Synod admonishes the faithful to keep the feast from the day of the Resurrection to the *Kaine* Sunday,[578] in chants and hymns and spiritual songs.[579] <2>And [it also admonishes the faithful] to be bold as they shut down the horse races, and the public spectacles, and frequently to be in the habit of visiting the sacred places,[580] in return for which we might be liberated from the slavery of the devil. <3>For the true Christian should be ready almost (426) on every occasion to welcome the divine mysteries. <4>In this manner, we shall be resurrected together with Christ, from the low-loving and earth-bound life, <5>and we shall be raised with [Him] to a super-cosmic and most truly spiritual existence.[581]

<6>Look also in Chapter 1 of the Letter Theta[582] for Canon 61 of the Synod in Carthage.[583]

582. See Rhalles and Potles, Vol. 6, pp. 304-305 for Vlastares' own opinion on Canon 61 of Carthage. See Rhalles and Potles, Vol. 3, pp. 466-467 for the text of the Canon and commentaries by Zonaras, Valsamon and Aristenos.

583. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV: "Canon LXI. (Greek lxiv.) Of spectacles, that they be not celebrated on Lord's days nor on the festivals of the Saints. Furthermore, it must be sought that theatrical spectacles and the exhibition of other plays be removed from the Lord's day and the other most sacred days of the Christian religion, especially because on the octave day of the holy Easter [i.e., Low Sunday] the people assemble rather at the circus than at church, and they should be transferred to some other day when they happen to fall upon a day of devotion, nor shall any Christian be compelled to witness these spectacles, especially because in the performance of things contrary to the precepts of God there should be no persecution made by anyone, but (as is right) a man should exercise the free will given him by God. Especially also should be considered the peril of the cooperators who, contrary to the precepts of God, are forced by great fear to attend the shews." "This is Canon V. of the Synod of Carthage, June 15th (16), a.d. 401."

[*7.21*] *Συνόδου ἕκτης πθ΄.*

<1>Ὁ δὲ πθ΄. τῆς ς΄. Συνόδου, τὰς τοῦ σωτηρίου πάθους ἡμέρας ἐν νηστείᾳ εἰσηγεῖται, καὶ προσευχῇ καὶ κατανύξει καρδίας ἐπιτελεῖν τοὺς πιστούς· <2>μέσων δὲ νυκτῶν μετὰ τὸ σάββατον ἀπονηστίζεσθαι, <3>τῶν θείων Εὐαγγελιστῶν Ματθαίου καὶ Λουκᾶ, τοῦ μέν, διὰ τοῦ ὀψὲ σαββάτου ῥήματος, τοῦ δέ, διὰ τοῦ βαθέος ὄρθρου, τὴν βραδυτῆτα ἡμῖν τῆς νυκτὸς ὑπογραφόντων· <4>μέχρι μὲν γὰρ τῆς τοῦ σαββάτου νυκτερινῆς ς΄. ὥρας, θέμις νηστεύειν· <5>μετὰ δέ γε τὴν ζ΄. οὐκ ἔτι· <6>ἅτε καὶ τοῦ Κυρίου ἐγηγέρθαι πιστευομένου τῷ τότε, καὶ μὴ νηστεύειν τὰς κυριωνύμους προστεταγμένον.

NOTES:

584. The header is missing in Migne's Greek and Latin texts. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV: "CANON LXXXIX. The faithful spending the days of the Salutatory Passion in fasting, praying and compunction of heart, ought to fast until the midnight of the Great Sabbath: since the divine Evangelists, Matthew and Luke, have shewn us how late at night it was [that the resurrection took place], the one by using the words Ὀψὲ Σαββάτων, and the other by the words ὄρθρου βαθέος." "THE COUNCIL IN TRULLO; OFTEN CALLED THE QUINISEXT COUNCIL. A.D. 692."

585. =prescribes.

586. See Rhalles and Potles, Vol. 2, pp. 512-516 for the Greek text of this Canon and for the commentaries of Zonaras, Valsamon and Aristenos. This

[*7.21*] *[Canon] 89 of the Sixth Synod.*[584]

<1>As for the 89th [Canon] of the Sixth Synod, it proposes[585] that the faithful [ought] to celebrate the *[105]* days of the salvific passion in fasting, and prayer, and compunction of heart.[586] <2>And at the middles[587] of the nights after the [Holy and Great] Saturday to end the fast, <3>on account of the divine Evangelists Matthew and Luke, who sketch out the slowness[588] of the night to us, the first by the phrase "late after Saturday,"[589] and the other by [the phrase] "at deep dawn."[590] <4>For until the sixth night hour of Saturday,[591] it is required by custom to fast; <5>and after the seventh [night hour of Saturday],[592] not [to fast] any more, <6>inasmuch as not only is the Lord believed to have arisen at that time, but it is also commanded[593] not to fast on the [days] named after the Lord.[594]

Canon is also about Christian conduct, and Vlastares appeals to the New Testament references given in the Canon for its justification.

587. Rhalles and Potles note in a footnote that Manuscript 1340 (A.D. 1680) replaces "middles" by "middle," whereas Manuscript Γ (A.D. 1683) has "middle of the night."

588. =tardiness.

589. Mt 28:1.

590. Lk 24:1, often rendered as "at early dawn."

591. =midnight of Holy Saturday to Sunday of Pascha.

592. =1 A.M. on Sunday dawn.

593. 66th Apostolic Canon; see Rhalles and Potles, Vol. 2, p. 84.

594. =on Sundays, Gr. Κυριακάς, cf. Κύριος = Lord.

[*7.22*] *Διονύσιου Ἀλεξανδρείας.*

<1>Τούτοις συνᾴδων καὶ ὁ ἐν ἁγίοις Διονύσιος Ἀλεξανδρείας, κατ᾽ ἐκεῖνο τῆς ὥρας κελεύει ἀπονηστίζεσθαι τοὺς πρὸ τοῦ πάσχα νενηστευκότας, <2>ὧν οἱ μὲν ἄσιτοι πᾶσαν τὴν πρὸ τοῦ πάσχα ἑβδομάδα διατελοῦσιν, ἄλλοι δέ, δύο ἡμέρας, ἢ τρεῖς, ἢ τέσσερας· <3>τὸ γὰρ ὀψὲ σαββάτου εἰρημένον τῷ θείῳ Ματθαίῳ, οὐ τὴν ἑσπέραν δηλοῖ, φησίν, ἀλλὰ νύκτα βαθεῖαν, βραδυτῆτα καὶ μακρὸν χρόνον, τοῦ ὀψὲ δηλοῦντος· <4>ταύτῃ τοι καὶ ἐπήγαγε, τῇ ἐπιφωσκούσῃ εἰς μίαν σαββάτων· <5>ὁ δὲ Ἰωάννης, πρωΐ, σκοτίας ἔτι οὔσης, φησίν· <6>ὁ δὲ Λουκᾶς, τῇ μιᾷ τῶν σαββάτων, ὄρθρου βαθέος· <7>ὁ δὲ Μάρκος, λίαν πρωΐ, τῆς μιᾶς σαββάτων, αἱ γυναῖκες ἦλθον ἐπὶ τὸ μνημεῖον, ἀνατείλαντος τοῦ ἡλίου· <8>ταυτὸν δέ ἐστι τὸ λίαν πρωΐ τῷ βαθέος ὄρθρου.

NOTES:

595. The header is missing in Migne's Greek and Latin texts. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV: "Canon I. When the Paschal fast is to be broken depends on the precise hour of our Saviour's resurrection, and this was not certainly to be known from the Four Evangelists; therefore they who have not fasted the Monday, Tuesday, Wednesday, and Thursday before Easter, do no great thing if they fast the Friday and Saturday, and so till past three on Easter morning. But they who have fasted the whole six days, are not to be blamed if they break their fast after midnight. Some do not fast any of these days." "The Letter of the Blessed Dionysius, the Archbishop of Alexandria to Basilides the Bishop Who Made Enquiries on Various Subjects, to Which Dionysius Made Answer in This Epistle, Which Answers Have Been Received as Canons … Dionysius, Johnson says, wrote in about AD 247."

596. =Evangelists Matthew and Luke.

[*7.22*] *[Canon] of Dionysius of Alexandria.*[595]

<1>In unison with these[596] also, Dionysius[597] among the saints [patriarch] of Alexandria commands[598] that those who fasted before the Pascha should end the fast at that point in time;[599] <2>among these,[600] some keep the entire week before the Pascha without food, whereas others [fast] two days or three or four. <3>For he[601] says that the [phrase] "late after Saturday" stated by the divine Matthew[602] does not denote the evening but the deep night, since the [word] "late" denotes slowness[603] and a long time. <4>And to this he[604] appended [the phrase] "shedding light onto the first [day] of the Sabbaths."[605] <5>As for John, he says "at morning, while it was still dark."[606] <6>As for Luke, [he says] "on the first [day] of the Sabbaths, at deep dawn."[607] <7>As for Mark, [he says] "very [early] in the morning, on the first day of the Sabbaths, the women came to the tomb, when the sun had risen."[608] <8>And the [phrase] "very [early] in the morning" [of Mark] is identical to "at deep dawn" [of Luke].[609]

597. Dionysius was born *c*. 195 to an upper class pagan family in Alexandria, Egypt. He received a broad classical education, and first became interested in Christianity upon reading St. Paul's epistles. He received instruction and baptism from Patriarch Demetrius of Alexandria (189–232), and he was soon ordained a presbyter. He studied at the renowned Alexandrian Catechetical School under Origen (*c*. 185–*c*. 254). Under Patriarch Heraclas (232–248), Dionysius was appointed director of the School and eventually became Patriarch (248–265). During his tenure, he endured the persecutions of Emperors Decius (r. 249–251) and Valerian (r. 253–260), exile, the plague, civil strife and numerous theological controversies. He was succeeded by Patriarch Maximus (265–282), in turn followed by Theonas (282–300). The Orthodox Church honors him as "St. Dionysius the Great" on October 3. See Papadopoulos Ch. (1935), *Ἱστορία τῆς Ἐκκλησίας Ἀλεξανδρείας (62–1934)*, (=History of the Church of Alexandria (62–1934)), in Greek, Patriarchal Press, Alexandria, Egypt, pp. 87–139.

598. This Canon is also about Christian conduct, and Vlastares provides New Testament references for its justification, citing from the complete text of the letter of Dionysius to Basilides, mentioned in §7.22n. From http://www.ccel.org/fatehrs2/ANF-06/anf06-33.htm#P1351_363030 (accessed: 07/07/03). "V.-The Epistle to Bishop Basilides. Canon I. Dionysius to Basilides, my beloved son, and my brother, a fellow-minister with me in holy things, and an obedient servant of God, in the Lord greeting. You have sent to me, most faithful and accomplished son, in order to inquire what is the proper hour for bringing the fast to a close on the day of Pentecost. For you say that there are some of the brethren who hold that that should be done at cockcrow, and others who hold that it should be at nightfall. For the brethren in Rome, as they say, wait for the cock; whereas, regarding those here, you told us that they would have it earlier. And it is your anxious desire, accordingly, to have the hour presented accurately, and determined with perfect exactness, which indeed is a matter of difficulty and uncertainty. However, it will be acknowledged cordially by all, that from the date of the resurrection of our Lord, those who up to that time have been humbling their souls with fastings, ought at once to begin their festal joy and gladness. But in what you have written to me you have made out very clearly, and with an intelligent understanding of the Holy Scriptures, that no very exact account seems to be offered in them of the hour at which He rose. For the evangelists have given different descriptions of the parties who came to the sepulchre one after another, and all have declared that they found the Lord risen already. It was 'in the end of the Sabbath,' as Matthew has said; it was 'early, when it was yet dark,' as John writes; it was 'very early in the morning,' as Luke puts it; and it was 'very early in the morning, at the rising of the sun,' as Mark tells us. Thus no one has shown us clearly the exact time when He rose. It is admitted, however, that those who came to the sepulchre in the end of the Sabbath, as it began to dawn toward the first day of the week, found Him no longer lying in it. And let us not suppose that the evangelists disagree or contradict each other. But even although there may seem to be some small difficulty as to the subject of our inquiry, if they all agree that the light of the world, our Lord, rose on that one night, while they differ with respect to the hour, we may well seek with wise and faithful mind to harmonize their statements. The narrative by Matthew then, runs thus: 'In the end of the Sabbath as it began to dawn toward the first day of the week, came Mary Magdalene, and the other Mary, to see the sepulchre. And, behold, there was a great earthquake: for the angel of the Lord descended from heaven, and came and rolled back the stone, and sat upon it. And his countenance was like lightning, and his raiment white as snow: and for fear of him the keepers did shake, and became as dead men. And the angel answered and said unto the women, Fear not ye: for I know that ye seek Jesus, which was crucified. He is not here; for He is risen, as He said.' Now this phrase 'in the end' will be thought by some to signify, according to the common use

of the word, the evening: of the Sabbath; while others, with a better perception of the fact, will say that it does not indicate that, but a late hour in the night, as the phrase 'in the end' denotes slowness and length of time. Also because he speaks of night, and not of evening, he has added the words, 'as it began to dawn toward the first day of the week.' And the parties here did not come yet, as the others say, 'bearing spices,' but 'to see the sepulchre; 'and they discovered the occurrence of the earthquake, and the angel sitting upon the stone, and heard from him the declaration, 'He is not here, He is risen.' And to the same effect is the testimony of John. 'The first day of the week,' says he, 'came Mary Magdalene early, when it was yet dark, unto the sepulchre, and seeth the stone taken away from the sepulchre.' Only, according to this 'when it was yet dark,' she had come in advance. And Luke says: 'They rested the Sabbath-day, according to the commandment. Now, upon the first day of the week, very early in the morning, they came unto the sepulchre, bringing the spices which they had prepared; and they found the stone rolled away from the sepulchre.' This phrase 'very early in the morning' probably indicates the early dawn of the first day of the week; and thus, when the Sabbath itself was wholly past, and also the whole night succeeding it, and when another day had begun, they came, bringing spices and myrrh, and then it became apparent that He had already risen long before. And Mark follows this, and says: 'They had bought sweet spices, in order that they might come and anoint Him. And very early (in the morning), the first day of the week, they come unto the sepulchre at the rising of the sun.' For this evangelist also has used the term 'very early,' which is just the same as the 'very early in the morning' employed by the former; and he has added, 'at the rising of the sun.' Thus they set out, and took their way first when it was 'very early in the morning,' or (as Mark says) when it was 'very early; 'but on the road, and by their stay at the sepulchre, they spent the time till it was sunrise. And then the young man clad in white said to them, 'He is risen, He is not here.' As the case stands thus, we make the following statement and explanation to those who seek an exact account of the specific hour, or half-hour, or quarter of an hour, at which it is proper to begin their rejoicing over our Lord's rising from the dead. Those who are too hasty, and give up even before midnight, we reprehend as remiss and intemperate, and as almost breaking off from their course in their precipitation, for it is a wise man's word, 'That is not little in life which is within a little.' And those who hold out and continue for a very long time, and persevere even on to the fourth watch, which is also the time at which our Saviour manifested Himself walking upon the sea to those who were then on the deep, we receive as noble and laborious disciples. On those, again, who pause and refresh themselves in the course as they are moved or as they are able, let us not press very hard: for all do not carry out the six days of fasting either equally or alike; but some pass even all the days as a fast, remaining without food through the whole; while others take but two, and others three, and others four, and

others not even one. And to those who have laboured painfully through these protracted fasts. and have thereafter become exhausted and well-nigh undone, pardon ought to be extended if they are somewhat precipitate in taking food. But if there are any who not only decline such protracted fasting, but refuse at the first to fast at all, and rather indulge themselves luxuriously during the first four days, and then when they reach the last two days-viz., the preparation and the Sabbath-fast with due rigour during these, and these alone, and think that they do something grand and brilliant if they hold out till the morning, I cannot think that they have gone through the time on equal terms with those who have been practising the same during several days before. This is the counsel which, in accordance with my apprehension of the question, I have offered you in writing on these matters.

Canon II.

The question touching women in the time of their separation, whether it is proper for them when in such a condition to enter the house of God, I consider a superfluous inquiry. For I do not think that, if they are believing and pious women, they will themselves be rash enough in such a condition either to approach the holy table or to touch the body and blood of the Lord. Certainly the woman who had the issue of blood of twelve years' standing did not touch the Lord Himself, but only the hem of His garment, with a view to her cure. For to pray, however a person may be situated, and to remember the Lord, in whatever condition a person may be, and to offer up petitions for the obtaining of help, are exercises altogether blameless. But the individual who is not perfectly pure both in soul and in body, shall be interdicted from approaching the holy of holies.

Canon III.

Moreover, those who are competent, and who are advanced in years, ought to be judges of themselves in these matters. For that it is proper to abstain from each other by consent, in order that they may be free for a season to give themselves to prayer, and then come together again, they have heard from Paul in his epistle.

Canon IV.

As to those who are overtaken by an involuntary flux in the night-time, let such follow the testimony of their own conscience, and consider themselves as to whether they are doubtfully minded in this matter or not. And he that doubteth in the matter of meats, the apostle tells us, 'is damned if he eat.' In these things, therefore, let every one who approaches God be of a good conscience, and of a proper confidence, so far as his own judgment is concerned. And, indeed, it is in order to show your regard for us (for you are not ignorant, beloved,) that you have proposed these questions to us, making us of one mind, as indeed we are, and of one spirit with yourself. And I, for my part, have thus set forth my opinions in public, not as a teacher, but only as it becomes us with all simplicity to confer with each other. And when you have examined this opinion of mine, my most intelligent son, you will write back to me your notion of these matters, and

let me know whatever may seem to you to be just and preferable, and whether you approve of my judgment in these things. That it may fare well with you, my beloved son, as you minister to the Lord in peace, is my prayer.

599. i.e., on the day of the Holy Pascha.

600. =those who keep the fast.

601. =Dionysius.

602. Mt 28:1.

603. =tardiness.

604. Matthew.

605. Mt 28:1.

606. Jn 20:1.

607. Lk 24:1.

608. Mk 16:2.

609. Dionysius (*c.* 195–265) is particularly significant in the history of Alexandrian computus. He continued the tradition of sending festal letters, initiated by Patriarch Demetrius (189–232): "In the time of Dionysius, Bishop of Alexandria, the custom was already established for the bishop to write an annual letter announcing the date of Easter to the churches of Egypt. In one of several letters which Dionysius wrote in the year 247, he set forth a canon of eight years, which came to be known as *octaëteris*. Of more significance was his statement that it is never right to celebrate the feast of Easter except after the vernal equinox. The *octaëteris* in some form lasted until the end of the fourth century, and was used by Epiphanius despite the weaknesses that must have become more than obvious." See Jones, p. 14; see also Pedersen, pp. 30–31, Stevens, pp. I–36. The tradition of festal letters was continued by Patriarchs Peter I (300–311); Alexander (311-328); Athanasius (328–373); Theophilus (385–412; see §§7.2.45n; 7.4.6n; 7.5.19n); and Cyril (412–442; see §7.10.10n). See Évieux, P., Burns, W.H., *et al.* (1991), *Cyrille D'Alexandrie Lettres Festales I-VI*, In French, Sources Chrétiennes No. 372, Éditions du CERF, Paris, France, pp. 95–112.

[*7.23*] *Περὶ τῆς τριημέρου ἀναστάσεως.*

<1>Ἀωρὶ μὲν γὰρ τῶν νυκτῶν πρὸς τὸ μνημεῖον αἱ γυναῖκες ἀπῆεσαν· <2>προσήδρευον δὲ τῷ τάφῳ μέχρις ἀνατολῆς ἡλίου. <3>Εἰ γὰρ καὶ ἀρχὴ τῆς ἡμέρας ἡ τοῦ ἡλίου ἀνατολὴ γίνεται, καὶ ἀρχὴ τῆς νυκτὸς ἡ δύσις αὐτοῦ, <4>ἀλλ' ὁ πολιτικὸς νόμος καὶ οἱ περὶ τὴν ἀστροθεάμονα τέχνην ἐσχολακότες, ἀρχὴν τῆς ἡμέρας, τὴν νυκτερινὴν ἑβδόμην τίθενται ὥραν, καὶ ἀρχὴν τῆς νυκτὸς τὴν ἑβδόμην ἡμερινήν· <5>διὰ τοῦτο καὶ ἐν τῇ ἱερᾷ νυκτὶ τῆς τοῦ Χριστοῦ ἀναστάσεως, ἅτε τηνικαῦτα ἰσημερίας οὔσης ἐαρινῆς, ὄρθρος βαθύς, καὶ λίαν πρωΐ ἀνατείλαντος τοῦ ἡλίου, καὶ σκοτία, καὶ ὀψία σαββάτου εἰς μίαν σαββάτων, τὴν τότε κυριακήν, ἐπιφώσκουσα, <6>ὁ μετὰ ἕκτην ὥραν καιρὸς τῆς νυκτός, τῇ θείᾳ τῶν Εὐαγγελιστῶν προσηγόρευται λογάδι, ὃς ἦν ἀρχὴ τῆς κυριακῆς· <7>παρὸ δὴ καὶ τριήμερον λέγομεν τὴν ἀνάστασιν τοῦ Κυρίου, κατὰ τὴν ἀψευδῆ αὐτοῦ ἐπαγγελίαν. <8>Ἐπεὶ γὰρ τῇ παρασκευῇ τὸν ζωοποιὸν ὕπνωσε θάνατον, ἥτις ἦν πρώτη, δευτέρα δὲ τὸ σάββατον, <9>ἥψατο δὲ καὶ τῆς ἑβδόμης ὥρας τῆς νυκτός, ἥτις ἦν ἀρχὴ τῆς κυριακῆς, ὡς εἴρηται, <10>τρίτη ἄρα λογίζεται ἡ κυριακή.

NOTES:

610. The header is missing in Migne's Greek and Latin texts, which provide for no break between this and the preceding sections. This section seems out of place. It provides an *apologia* for the third-day Resurrection, and may have been a later insertion. It is complemented by §7.24.

611. =of Holy Saturday toward Paschal Sunday; literally, the nights.

612. =on Paschal Sunday dawn.

613. =1 A.M. The Orthodox ecclesiastical day begins at the preceding sunset. Consequently, this is another case of a disagreement between the civil and the ecclesiastical reckoning pointed out by Vlastares; cf. §7.16.11.

614. =1 P.M.

615. This definition differs from the Jewish (as well as the Orthodox Christian ecclesiastical) reckoning, which considers that the day starts at the preceding sunset. Cf. §7.1.8n; 7.4.2n, 4n; 7.16.10n; 7.17.5n.

[*7.23*] *About the Third-Day Resurrection.*[610]

<1>Now, early during the night,[611] the women set out for the tomb. <2>And they (427) were establishing themselves at the sepulcher at about the rising of the sun.[612] <3>Yet, despite the fact that the beginning of the day is marked by the rising of the sun, and the beginning of the night by its setting, <4>the civil law and the erudite in the art of observing the stars place the seventh hour of the night[613] as the beginning of the day, and the seventh hour of the day[614] as the beginning of the night.[615] <5>For this reason also, during the sacred night of the resurrection of Christ, seeing that at that time it was the Spring Equinox, as "deep dawn,"[616] and "very [early] in the morning when the sun had risen,"[617] and "darkness,"[618] and "late on Saturday toward the first [day] of the Sabbaths … shedding light"[619] upon the succeeding Sunday <6>is the [period] of the night after the sixth hour[620] referred to in the divine select gathering of the Evangelists, which was the beginning of the Sunday. <7>For this reason, indeed, we call the resurrection of the Lord "third-day" in accordance with His infallible prediction:[621] <8>because on the Friday He slept the life-giving death, which is the first [day], and second [is] the Saturday, <9>and he touched also on the seventh hour of the night,[622] which was the beginning of the Sunday,[623] as was said;[624] <10>Sunday, therefore, is reckoned as the third [day].

616. Lk 24:1.
617. Mk 16:2.
618. Jn 20:1.
619. Mt 28:1.
620. =midnight.
621. Jn 2:19; Mk 9:31, 10:34.
622. =1 A.M.
623. It is worth wondering why the traditional explanation of the third-day Resurrection did not rely on the Jewish reckoning of the day, as starting at the preceding sunset, which would have been as convincing and effective (not to mention contextually appropriate) as the one offered here.
624. See §7.23.6.

[*7.24*] *Τοῦ Χρυσοστόμου.*

<1>Φησὶ δὲ ὁ τῆς Ἐκκλησίας περίβολος, ἡ τῆς εὐαγγελικῆς ἐμπειρίας βίβλος, ὁ θεῖος, φημί, Χρυσόστομος, ὅτι τὸ μὲν θᾶττον ἀναστῆναι, ἔγκλημα οὐκ ἦν· <2>τὸ δὲ βράδιον, ὑποψίας ἔγεμεν· <3>οὐ γὰρ ἂν καὶ τὸν χρέος καταβάλλοντα πρὸ τῆς ὁρισθείσης προθεσμίας, νοῦν ἔχων ἄνθρωπος αἰτιάσαιτο. <4>Οἱ μὲν οὖν θεῖοι Εὐαγγελισταί, τὰς τῶν εὐαγῶν γυναικῶν προσελεύσεις, καὶ ἃς κατεῖδον αὗται διαφόρους περὶ τὴν ἀνάστασιν ὀπτασίας, <5>ὡς εἶχεν ἕκαστος διὰ μνήμης, ἢ θειοτέρας, μᾶλλον εἰπεῖν, ἐμπνεύσεως, σαφῶς ἀνεγράψαντο. <6>Ἡ μέν τοι ἀληθὴς τῆς ἀναστάσεως ὥρα, εἴτε ἑβδόμη τυγχάνουσα ἦν, εἴτε μὴν ὀγδόη, μόνῳ τῷ ἀναστάντι Θεῷ γνώριμος.

NOTES:

625. Migne, *PG* 48:783 (see Delempases, p. 346). In his commentary on the 7th Apostolic Canon, Valsamon refers to Chrysostom's 8th Oration *On Pascha* (see Rhalles and Potles, Vol. 2, p. 11). This section complements the previous one, §7.23. The header is missing in Migne's Greek and Latin texts, but the section starts as a new paragraph.

626. Cf. Migne, *atque doctrinae evangelicae pandectes* = also the compendium of the evangelical doctrines.

627. St John Chrysostom (=the Golden Mouthed) was born *c.* A.D. 349 in Antioch, where he received a classical education under pagan rhetoric teacher Livanius. He was baptized in 368 and spent several years in the desert practicing austere monasticisim. Returning to the city, he was ordained a deacon in 381, and a presbyter in 386. A number of his fiery and controversial homilies delivered in Antioch are extant, including at least one whose main theme

[*7.24*] *Of [St. John] Chrysostom.*[625]

<1>And says he who is the bulwark of the Church, the bible of the evangelical experience,[626] the divine, I say, Chrysostom,[627] that to arise more swiftly would not have created[628] an accusation; <2>but [to arise] more tardily, [that] on the other hand would have been laden with suspicion. <3>For a reasonable man would not have blamed the one who was paying the debt[629] [if he had done it] before the appointed deadline. <4>The divine Evangelists then, recorded clearly the visitations of the nimble[630] women, and the various visions that these [women] had observed concerning the resurrection, <5>as each [Evangelist] could have it by memory, or—better to say—[on account] of a more divine inspiration. <6>Yet, the precise[631] *[108]* hour of the resurrection, whether it happened to be the seventh,[632] or even the eighth,[633] is known only to the risen God.

is the celebration of Pascha (*Adversus Judaeos* 3). He was elected Patriarch of Constantinople in 398, an office he retained until 404 when he was deposed and exiled, on charges of Origenism and defamation of the Empress Eudoxia. He died in 407; his feast day is celebrated on November 13.

628. Literally, been.

629. The notion that Christ paid a debt for man's transgressions is not generally traditional among Orthodox theologians. It is not immediately obvious whether Vlastares is echoing Chrysostom at this point or providing another example of "western influence;" cf. §7.3.19n.

630. =agile.

631. Literally, true.

632. =1 A.M.

633. =2 A.M.

[*7.25*] *Καρθαγένης λδ΄. ογ΄.*

<1>Ὁ δὲ τῆς ἐν Καρθαγένῃ Συνόδου λδ′. καὶ ὁ ογ′. τὴν τοῦ ἁγίου πάσχα ἡμέραν παρεγγυῶνται γίνεσθαι δήλην ἐν ταῖς ἐτησίως γινομέναις Συνόδοις· <2>ἡμέραν δὲ τῆς Συνόδου ὁρίζονται τὴν πρὸ δέκα καλανδῶν Σεπτεμβρίων, ὡς εἶναι ταύτην εἰκοστὴν πρώτην τοῦ Αὐγούστου· <3>καλάνδαι γὰρ αἱ πρῶται ἡμέραι τοῦ μηνὸς λέγονται· <4>εἰ οὖν τὰς πρὸ τούτων ἀφέλοις δέκα, ἡ κα′. λείπεται τοῦ Αὐγούστου, τριάκοντα καὶ μίαν ἡμέρας ἔχοντος.

NOTES:

634. The header is missing in Migne's Greek and Latin texts. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV: "Canon XXXIV. (Greek xxxvii.) That nothing of those things enacted in the Synod of Hippo [A.D. 393] is to be corrected. Bishop Epigonius said: In this summary (Breviarium) which was adopted at the Synod of Hippo, we think nothing should be amended, nor anything added thereto except that the day on which the holy Feast of Easter falls should be announced in Synod." "Canon LXXIII. (Greek lxxvi.) The date of Easter and the date of the Council should be announced. Item, it seemed good that the day of the venerable Easter should be intimated to all by the subscription of formed letters; and that the same should be observed with regard to the date of the Council, according to the decree of the Council of Hippo, that is to say the X. Calends of September, and that it should be written to the primates of each province so that when they summon their councils they do not impede this day." "The Greek canon says ἡ πρὸ δέκα καλανδῶν, and Zonaras makes this the 21st of August, but he mistakes in his calculation." "Councils were nowhere more frequently called in the Primitive Times than in Africa. In the year 418–19, all canons formerly made in sixteen councils held at Carthage, one at Milevis, one at Hippo, that were approved of, were read, and received a new sanction from a great number of bishops, then met in synod at Carthage. This Collection is the Code of the African Church, which was always in greatest repute in all Churches next after the Code of the Universal Church." See Rhalles and Potles, Vol. 3, pp. 395–396 and 489–492, for the Greek text and commen-

[*7.25*] *[Canons] 34, 73 of Carthage.*[634]

<1>As for the 34th and the 73rd Canons of the Synod at Carthage,[635] [they] pass on the command that the date of the Holy Pascha should be announced at the Synods that are convened annually. <2>And as the date of the Synod, they lay down the [date of] 10 [days] before the calends of September, that is the same as the 21st **(428)** of August. <3>For calends are called the first days of the month.[636] <4>Therefore, if you subtract the ten [days] prior to them, the remainder is the 21st of August, [a month] that has thirty one days.[637]

taries by Zonaras, Valsamon, and Aristenos.

635. Canon 73 relates to the mode of announcing the date of Pascha. Valsamon refers to this Canon in his commentary on the 7th Apostolic Canon (see Rhalles and Potles, Vol. 2, p. 11).

636. The 10th calends September should be August 23, not 21, as given by Vlastares, who is evidently repeating an erroneous reckoning by Zonaras (Rhalles and Potles, Vol. 3, p. 489). Cf. Newton, p. 12: "In the Roman calendar, each month had 3 principal days that had names. The 'calends' was the first day of the month. The 'nones' was either the 5th or the 7th, depending upon the month, and the 'ides' was either the 13th or the 15th … The Romans specified a day other than a named day by counting backward from the next successive named day. The counting was inclusive. That is, the named day was counted as '1' and the day in question also had to be counted … As [an] example, consider Christmas, which is Dec 25. This is '8th calends January' in the Roman calendar." A complete Roman Calendar is presented by Walsh and Ó Cróinín, p. 215. As Finegan, p. 66, indicates "*a d iii non Quint* abbreviates *ante diem iii nonas Quintiles*, meaning 'the third day before the nones of Quintilis,' and equals July 5." It is noted that Quintilis is the early Roman name for the long (31-day) month of July, whose ides was on the 15th; the nones was the ninth day, counted inclusively, before the ides.

637. See also commentaries by Zonaras, Valsamon and Aristenos, in Rhalles and Potles: on the 34th Canon in Vol. 3, p. 396; and on the 73rd Canon in Vol. 3, pp. 489–492.

[*7.26*] *Λαοδικείας ιδ΄.*

<[1]>Ὁ δὲ ιδ΄. τῆς ἐν Λαοδικείᾳ, οὐκ οἴεται δεῖν τὰ ἅγια δῶρα, εὐλογίας δῆθεν χάριν, τῷ τοῦ πάσχα καιρῷ ἀπὸ παροικίας πέμπειν εἰς παροικίαν· <[2]>ὡς ἀπρεπὲς γὰρ καὶ οὐκ εὔσχημον ἔθος δικαίως πρὸς τῶν Πατέρων κεκώλυται· <[3]>τοῦτο δὲ νῦν οἱ Λατῖνοι ποιοῦσιν, ἐν τῷ καιρῷ τοῦ πάσχα ἐπιμερίζοντες τὰ ἄζυμα μετὰ τὸ ἁγιασθῆναι, ὡς κοινὰ τῷ δήμῳ παντί.

NOTES:

638. The header is missing in Migne's Greek and Latin texts. From http://www.ccel.org/fathers2/NPNF2-14/TOC.htm (accessed: 12/04/02). Nicene and Post-Nicene Fathers, Series II, Vol. XIV: "The holy things are not to be sent into other dioceses at the feast of Easter by way of *eulogiae* [=blessings]." "Historical Introduction. The Laodicea at which the Synod met is Laodicea in Phrygia Pacatiana, also called Laodicea ad Lycum, and to be carefully distinguished from the Laodicea in Syria. This much is certain, but as to the exact date of the Synod there is much discussion … Hefele concludes that 'Under such circumstances, it is best, with Remi Ceillier, Tillemont, and others, to place the meeting of the synod of Laodicea generally somewhere between the years 343 and 381, i.e., between the Sardican and the Second Ecumenical Council-and to give up the attempt to discover a more exact date.'" Pedersen, p. 42, gives A.D. 364 as the date of the Synod of Laodicea.

639. This Canon concerns the distribution of Holy Gifts by the Latins,

[*7.26*] *[Canon] 14 of Laodicea.*[638]

<1>As for the 14th [Canon] of the [Synod] at Laodicea,[639] it does not consider that the holy gifts ought to be sent during the season of the Pascha — ostensibly for the sake of a blessing — from parish to parish. <2>[This] is justifiably prohibited by the Fathers[640] as an improper and not decent[641] custom. <3>This is what the Latins now do, who during the season of Pascha distribute the unleavened [hosts] after their consecration to the general[642] public, as if they were ordinary[643] [bread].[644]

and is part of the broader critique of eucharistic practices of the Latins (i.e., the Roman Catholics) that Vlastares dwells on extensively in other works (see Paschos, 1978, pp. 87–99; Troianos, S.N. (1998), *Ἀνατολὴ καὶ Δύση στὸ Κανονικὸ Ἔργο τοῦ Ματθαίου Βλάσταρη*, (=East and West in the Canonical Work of Mathhew Vlastares), in Greek, Βυζαντινά, Vol. 19, Kentron Vyzantinon Erevnon Aristoteleiou Panepistemiou, Thessalonike, Greece, pp. 384–385; Viscuso, pp. 38–39).

640. This reference to the Fathers is not in the same vein as previous ones. Cf. §§7.2.26, 34, 39, 43; 7.16.1; 7.17.10, 14, 28, 35, 45; 7.18.46, 49.

641. =honorable.

642. Literally, all.

643. Literally, common.

644. See also commentaries by Zonaras, Valsamon and Aristenos in Rhalles and Potles, Vol. 3, pp. 183–184.

[*7.27*] *Νόμος*.
<1>Τῇ πρώτῃ τῶν πασχαλίων ἡμερῶν, καὶ βασιλικῆς ἐπὶ τούτῳ μὴ καταλαβούσης κελεύσεως, πάντες οἱ ἐν φυλακαῖς ἀπολυέσθωσθαν, <2>εἰ μὴ ἄρα ἱερόσυλός ἐστιν, ἢ μοιχός, ἢ παρθένων ἅρπαξ, ἢ τυμβωρύχος, ἢ γόης, ἢ φαρμακός, <3>ἢ φονεύς, ἢ πατροκτόνος, ἢ κατὰ βασιλέως ἢ πόλεως εὑρέθη μηχανησάμενος.

NOTES:

645. The header is identical in both Rhalles and Potles as well as Migne. See Photian *Nomokanon in 14 Chapters*, Ch. 25, in Rhalles and Potles, Vol. 1, p. 192. This sole law presented concerns the release of prisoners on the day of Pascha. For the general dependence of Vlastares' *Syntagma* on the Photian *Nomokanon*, see Troianos, S. (1979), *Περὶ τῆς νομικῆς πηγῆς τοῦ Ματθαίου Βλάσταρη*, (=About the legal sources of Matthew Vlastares), in Greek,Ἐπετηρὶς Ἑταιρείας Βυζαντινῶν Σπουδῶν, Vol. 44, pp. 305–329, Athens, Greece. Cf. Viscuso, p. 67: "These passages [in the *Syntagma*] appear to assume that the *Syntagma* is a compilation of canonical texts, perhaps along the lines of the *Photian Nomokanon*. This is not the case, and these texts most probably reveal Blastares' plagiarism of an unidentified canonical source." See also Viscuso, pp. 41-44, 51.

[*7.27*] *Law.*[645]

<1>On the first of the Paschal days,[646] and [provided that] a royal command has not already been issued on this [matter], let all those in prison be released,[647] <2>unless one is perhaps a sacrilegist,[648] or adulterer, or abductor[649] of virgins, or grave[650] robber,[651] or magician,[652] or drug panderer,[653] <3>or murderer, or patricide, or convicted of a machination against the Emperor or the City.[654] **(428)** *[108]*

646. =on the Sunday of Holy Pascha.

647. Evidently, this Byzantine practice continued the Roman custom of releasing a prisoner at Pascha (Mt 27:15; Mk 15:6; Lk 23:17; Jn 18:39).

648. =temple robber.

649. =raptor.

650. =tomb.

651. =violator.

652. =spell-caster.

653. =concocter of potions, poisoner.

654. Rhalles and Potles note in a footnote "26 Royal 7:17", denoting the legislation source for these stipulations.

ΚΑΝΟΝΙΟΝ ΕΝ ΠΟΙΟΙΣ ΕΤΕΣΙΝ **Η ΚΑΤΑ ΤΟ ΝΟΜΙΚΟΝ ΠΑΣΧΑ ΠΑΝΣΕΛΗΝΟΣ**						
Σελήνης κύκλος	**Ποίᾳ συνέρχεται ποστῇ τοῦ μηνός, κατὰ ποῖον ἀπὸ μεσημβρίας ὁλοσχερέστερον α′. ἢ β′. τῆς ἡμέρας λεπτόν.**					
Α.	,ς. σ. λγ.		,ς. φ. λζ.		,ς. ω. κα.	
Β.	,ς. σ. λδ.	Μαρ. κβ. ,κγ′ μθ′′	,ς. φ. λη.		,ς. ω. κβ.	Μαρτ. … λδ′
Γ.	,ς. σ. λε.	Ἀπρ. ι. κγ′ μ′′	,ς. φ. λθ.	Ἀπρ. θ. κε′ κε′′	,ς. ω. μγ.	Ἀπρ. η. κζ′ νς′′
Δ.	,ς. σ. λς.	Μαρ. κθ. με′ μα′′	,ς. φ. ν.	Μαρ. κη. μζ′ ν′′	,ς. ω. μδ.	Μαρ. κζ. μθ′ νη′′
Ε.	,ς. σ. λζ.	Ἀπρ. ιζ. λθ′ λδ′′	,ς. φ. να.	Ἀπρ. ις. μα′ μβ′′	,ς. ω. με.	Ἀπρ. ιε. μγ′ ν′′
Ϛ.	,ς. σ. λη.	Ἀπρ. ζ. α′ λς′′	,ς. φ. νβ.	Ἀπρ. ς. γ′ μδ′′	,ς. ω. μς.	Ἀπρ. ε. ε′ νβ′′
Ζ.	,ς. σ. λθ.	Μαρ. κζ. κγ′ λη′′	,ς. φ. νγ.	Μαρ. κς. κε′ μς′′	,ς. ω. μζ.	Μαρ. κε. κς′ μδ′′
Η.	,ς. σ. μ.	Ἀπρ. ιδ. ιζ′ κθ′′	,ς. φ. νγ.	Ἀπρ. ιγ. ιθ′ λζ′′	,ς. ω. μη.	Ἀπρ. ιβ. κ′ μς′′
Θ.	,ς. σ. μα.	Ἀπρ. γ. λθ′ λα′′	,ς. φ. νδ.	Ἀπρ. β. μα′ λθ′′	,ς. ω. μθ.	Ἀπρ. α. κγ′ κζ′′
Ι.	,ς. σ. μβ.	Μαρ. κδ. α′ λγ′′	,ς. φ. νε.	Μαρ. κγ. γ′ μα′′	,ς. ω. ν.	Μαρ. κβ. ε′ μα′′
ΙΑ.	,ς. σ. μγ.	Ἀπρ. ια. νε′ κε′′	,ς. φ. νς.	Ἀπρ. ι. νζ′ λγ′′	,ς. ω. να.	Ἀπρ. θ. νθ′ κα′′
ΙΒ.	,ς. σ. μδ.	Μαρ. λα. ιζ′ κζ′′	,ς. φ. νζ.	Μαρ. λ. ιθ′ λε′′	,ς. ω. νβ.	Μαρ. κθ. κα′ μγ′′
ΙΓ.	,ς. σ. με.	Μαρ. κ. λθ′ κθ′′	,ς. φ. νη.	Μαρ. ιθ. μα′ λζ′′	,ς. ω. νγ.	Μαρ. ιη. μγ′ με′′
ΙΔ.	,ς. σ. μς.	Ἀπρ. η. λγ′ κα′′	,ς. φ. νθ.	Ἀπρ. ζ. λε′ κθ′′	,ς. ω. νδ.	Ἀπρ. ς. λζ′ λζ′′
ΙΕ.	,ς. σ. μζ′.	Μαρ. κη. νε′ κγ′′	,ς. φ. ξ.	Μαρ. κζ. νε′ λα′′	,ς. ω. νε.	Μαρ. κς. νθ′ λθ′′
ΙϚ.	,ς. σ. μη.	Ἀπρ. ιε. μθ′ ιε′′	,ς. φ. ξα.	Ἀπρ. ιδ. να′ κγ′′	,ς. ω. νς.	Ἀπρ. ιγ. νγ′ λα′′
ΙΖ.	,ς. σ. μθ.	Ἀπρ. ε. ια′ ιζ′′	,ς. φ. ξβ.	Ἀπρ. δ. ιγ′ κε′′	,ς. σ. νζ.	Ἀπρ. γ. ιε′ λγ′′
ΙΗ.	,ς. σ. ν.	Μαρ. κε. λγ′ ιθ′′	,ς. φ. ξγ.	Μαρ. κδ. λε′ κζ′′	,ς. ω. νη.	Μαρ. κγ. λζ′ λε′′
ΙΘ.	,ς. σ. να.	Ἀπρ. ιγ. κζ′ ια′′	,ς. φ. ξδ.	Ἀπρ. ιβ. κθ′ ιθ′′	,ς. ω. νθ.	Ἀπρ. ια. λα′ κζ′′

***CANONION*[a] [A] IN WHICH YEARS THE FULL MOON OCCURING DURING THE *NOMIKON* PASCHA**						
Lunar Cycle	**Coincides on which date of the month, at which nearest[b] first [minute] or second of the day reckoned from [mid-night][c]**					
1	AD 725[d]	[Apr. 2][e] [07:57:–][f]	AD 1029[g]	[Apr. 1][h] [12:43:–][i]	AD 1333[j]	[Apr. 1][k] [00:15:–][l]
2	AD 726	Mar. 22 21:31:36	AD 1030	[Mar. 22][m] [05:21:–][n]	AD 1334	Mar. [21] 01:36:–[o]
3	AD 727	Apr. 10 21:28:00	AD 1031	Apr. 9 22:10:00	AD 1335	Apr. 8 23:10:24
4	AD 728	Mar. 30 06:16:24	AD 1032	Mar. 29 07:08:00	AD 1336	Mar. 28 07:59:12
5	AD 729	Apr. 18 03:49:36	AD 1033	Apr. 17 04:40:48	AD 1337	Apr. 16 05:32:00
6	AD 730	Apr. 7 12:38:24	AD 1034	Apr. 6[p] 13:29:36	AD 1338	Apr. 5 14:20:48
7	AD 731	Mar. 27 21:27:12	AD 1035	Mar. 26 22:18:24	AD 1339	Mar. 25[q] 22:41:36
8	AD 732	Apr. 14 18:59:36	AD 1036	Apr. 13[r] 19:50:48	AD 1340	Apr. 12[s] 20:18:24
9	AD 733	Apr. 4 03:48:24	AD 1037	Apr. 3 04:39:36	AD 1341	Apr. 1[t] 21:22:48
10	AD 734	Mar. 24 12:37:12	AD 1038	Mar. 23 13:28:24	AD 1342	Mar. 22 14:16:24
11	AD 735	Apr. 12 10:10:00	AD 1039	Apr. 11 11:01:12	AD 1343	Apr. 10 11:44:24
12	AD 736	Mar. 31 18:58:48	AD 1040	Mar. 30 19:50:00	AD 1344	Mar. 29 20:41:12
13	AD 737	Mar. 21 03:47:36	AD 1041	Mar. 20[u] 04:38:48	AD 1345	Mar. 19[v] 05:30:00
14	AD 738	Apr. 9 01:20:24	AD 1042	Apr. 8[w] 02:11:36	AD 1346	Apr. 7 03:02:48
15	AD 739	Mar. 29 10:09:12	AD 1043	Mar. 28[x] 10:12:24	AD 1347	Mar. 27 11:51:36
16	AD 740	Apr. 16 07:42:00	AD 1044	Apr. 15 08:33:12	AD 1348	Apr. 14 09:24:24
17	AD 741	Apr. 5 16:30:48	AD 1045	Apr. 4 17:22:00	AD 1349	Apr. 3 18:13:12
18	AD 742	Mar. 26 01:19:36	AD 1046	Mar. 25 02:10:48	AD 1350	Mar. 24 03:02:00
19	AD 743	Apr. 13[y] 22:52:24	AD 1047	Apr. 12[z] 23:43:36	AD 1351	Apr. 12[aa] 00:34:48

NOTES:

[a] I have used the *Canonion* found on the left hand side of the insert between pages 420 and 421 of the Greek text by Rhalles and Potles, Vol. 6, as the primary source, and I have compared this to the Greek and Latin versions given by Migne *PG* 145, Columns 87 – 90. I provide annotations indicating the discrepancies between the *Canonion* as presented here in English and the texts by Migne. In addition, I note the corrections I have considered desirable for clarity or necessary on account of evident errors in the primary source.

[b] Literally, the more integral.

[c] The original reads "reckoned from mid-day." I have recast the time information given to a 24:00 clock (hour:minute:second) for clarity; consequently, some of the dates in the primary source have been incremented by one. I have also checked this information against data presented by Goldstine, and have found discrepancies ranging from 11 min. (AD 1343) to 15 hours (e.g., AD 740). Values tabulated by Goldstine range from 5 hours before those by Vlastares to 15 hours after. In most cases, Goldstine gives a later time than Vlastares, typically by 6 hours.

[d] I have subtracted 5508 from the years as listed by Vlastares to convert from the Mundane Era of Constantinople to the conventional AD era; e.g., for Vlastares' ,ςσλγ (6233), I give AD 725. As noted in the main text of the translation, Vlastares considers AD 725 to be the "year of the Fathers" (see, for example, §7.17.13n). The years commencing the other two cycles listed are obtained by adding increments of 304 years, which is Vlastares' estimate of the period required for the astronomical full moon to occur a day earlier than the ecclesiastical full moon.

[e] This date is missing from Vlastares' text, in both sources consulted. I have inserted here the date provided by Goldstine, which also agrees with the corresponding *Nomikon Faska* date in *Canonion* B.

[f] This time is missing from Vlastares' text, in both sources consulted. I have inserted here the time provided by Goldstine, reduced by 6 hours, which is the typical discrepancy between Goldstine and Vlastares noted in the rest of the data provided in this *Canonion*.

[g] This list begins with the year 6537 (AD 1029), per §7.17.35. In presenting the sequence of 19 years, I have corrected the evident errors in the corresponding sequences by Rhalles and Potles and by Migne (which start at Lunar Cycle 4, LC = 4), as well as the double year in LC = 7 and LC = 8.

[h] This date is missing from Vlastares' text, in both sources consulted. I have inserted here the date provided by Goldstine, which also agrees with the corresponding *Nomikon Faska* date in *Canonion* B.

[i] This time is missing from Vlastares' text, in both sources consulted. I have inserted here the time provided by Goldstine, reduced by 6 hours, which is the typical discrepancy between Goldstine and Vlastares noted in the rest of the data provided in this *Canonion*.

[j] This list begins with the year 6841 (AD 1333), per §7.17.41. In presenting the sequence of 19 years, I have corrected the evident errors in the corresponding sequences by Rhalles and Potles and by Migne, which occur at LC = 1 and LC = 2.

[k] This date is missing from Vlastares' text, in both sources consulted. I have inserted here the date provided by Goldstine, which also agrees with the corresponding *Nomikon Faska* date in *Canonion* B.

[l] This time is missing from Vlastares' text, in both sources consulted. I have inserted here the time provided by Goldstine, reduced by 6 hours, which is the typical discrepancy between Goldstine and Vlastares noted in the rest of the data provided in this *Canonion*.

[m] This date is missing from Vlastares' text, in both sources consulted. I have inserted here the date provided by Goldstine, which also agrees with the corresponding *Nomikon Faska* date in *Canonion* B.

[n] This time is missing from Vlastares' text, in both sources consulted. I have inserted here the time provided by Goldstine, reduced by 6 hours, which is the typical discrepancy between Goldstine and Vlastares noted in the rest of the data provided in this *Canonion*.

[o] Neither Rhalles and Potles nor Migne provide a date for this year, but the month is noted as March. Perhaps the manuscripts are obscure at this point, or perhaps the date is missing because it was confusing or uncertain. As to the time, both sources only give "λδ′," i.e., 34 minutes after mid-day, which corresponds to 01:36 on the 24-hour clock. According to Goldstine, the full moon in 1334 occurred on March 21 at 08:46. If we accept that there is a 7 hour difference between Vlastares and Goldstine (which is not atypical of the rest of the time information given in the *Canonion*), then the date in this cell should have read "March 21." This would be only one day prior to the corresponding date in AD 726, which would contradict Vlastares' assertion that "currently two days are found to be added" (see §§7.2.38; 7.17.44). Well-meaning efforts by scribes to correct this perceived error may be responsible for obscuring the manuscript by the time it reached Rhalles, Potles and Migne. According to Parise, Pascha in AD 1334 was celebrated on March 27. This is also the date indicated by *Canonion* B, for a year whose Lunar Cycle is 2 and Solar Cycle is 10, even though the ecclesiastical full moon (*Nomikon Faska*) is given as March 22.

[p] This cell contains discrepancies in Migne.

[q] This cell contains discrepancies in Migne.

[r] This cell contains discrepancies in Migne.

[s] This cell contains discrepancies in Migne.

[t] This cell contains discrepancies in Migne.

[u] This astronomical full moon date occurred prior to the ecclesiastical Spring Equinox date of March 21 (cf. §7.17.14). Vlastares accepts this in the reckoning of the Paschal date presumably because it occurred after his own estimate of the

astronomical Spring Equinox of March 18 (see §§7.2.8, 13; 7.18.25, 47).

[v] This astronomical full moon date occurred prior to the ecclesiastical Spring Equinox date of March 21 (cf. §7.17.14). Vlastares accepts this in the reckoning of the Paschal date presumably because it occurred after his own estimate of the astronomical Spring Equinox of March 18 (see §§7.2.8, 13; 7.18.25, 47).

[w] This cell contains discrepancies in Migne.

[x] This cell contains discrepancies in Migne.

[y] Of the 18 dates for the astronomical full moon given in this Column, 15 are in agreement with the respective *Nomikon Faska* dates provided in *Canonion* B. The other three astronomical dates are less than 24 hours too early, compared to the corresponding ecclesiastical dates (see also §7.17.18).

[z] All 17 dates for the astronomical full moon given in this Column, are one day too early compared to the dates given for the 19-year cycle beginning in AD 725, thereby verifying Vlastares assertion that "we found every [astronomical] full moon to be ahead compared to those during the first 19-year [period]" (see §7.17.38). It is not clear why the dates for LC = 1 and LC = 2 are not provided.

[aa] Of the 17 dates for the astronomical full moon given in this Column, 15 are two days too early compared to the dates given for the 19-year cycle beginning in AD 725, and one day too early compared to those for the cycle of AD 1029, thereby verifying Vlastares assertion that "we found them again [to be] one day ahead compared to the ones prior to them" (see §7.17.42). The date for LC = 9 is two days "ahead compared to the [one] prior to [it]," while that for LC = 19 is the same as "the [one] prior to [it]." Vlastares provides no explanation for these two exceptions to his assertion. It is not clear why the dates for LC = 1 and LC = 2 are not provided.

Θεμελ. τῆς Σελ.	Οἱ κύκλοι τῆς Σελ.	Τὸ νομικὸν Φάσκα.	**α′.**	**β′.**	**γ′.**	**δ′.**	**κς′.**	**ε′.**	**ς′.**	Οἱ κύκλοι τοῦ Ἡλίου ἑπτὰ τετράκις
			ζ′.	**η′.**	**κδ′.**	**θ′.**	**ι′.**	**ια′.**	**κγ′.**	
			ιβ′.	**ιγ′.**	**ιδ′.**	**ιε′.**	**κζ′.**	**ις′.**	**ιζ′.**	
			ιη′.	**ιθ′.**	**κε′.**	**κ′.**	**κα′.**	**κβ′.**	**κη′.**	
ιδ′.	**α′.**	**Ἀπρ. β′.**	Ἀπρ. ζ′. γ′.	Ἀπρ. ς′. δ′.	Ἀπρ. ε′. ε′.	Ἀπρ. δ′. ς′.	Ἀπρ. γ′. ζ′.	Ἀπρ. β′. α′.	Ἀπρ. α′. β′.	Τὰ ὑποκείμενα στοιχεῖα δηλοῦσι τὴν ἡμέραν τῆς ἑβδομάδος ἐν ᾗ εὑρίσκεται τὸ νομικὸν Πάσχα.
κε′.	**β′.**	**Μαρ. κβ′.**	Μαρ. κδ′. ς′.	Μαρ. κγ′. ζ′.	Μαρ. κε′. α′.	Μαρ. κθ′. β′.	Μαρ. κζ′. γ′.	Μαρ. κς′. δ′.	Μαρ. κε′. ε′.	
ς′.	**γ′.**	**Ἀπρ. ι′.**	Ἀπρ. ιδ′. δ′.	Ἀπρ. ιγ′. ε′.	Ἀπρ. ιβ′. ς′.	Ἀπρ. ια′. ζ′.	Ἀπρ. ιζ′. α′.	Ἀπρ. ις′. β′.	Ἀπρ. ιε′. γ′.	
ιζ′.	**δ′.**	**Μαρ. λ′.**	Μαρ. λα′. ζ′.	Ἀπρ. ς′. α′.	Ἀπρ. ε′. β′.	Ἀπρ. δ′. γ′.	Ἀπρ. γ′. δ′.	Ἀπρ. β′. ε′.	Ἀπρ. α′. ς′.	
κη′.	**ε′.**	**Ἀπρ. ιη′.**	Ἀπρ. κ′. ε′.	Ἀπρ. κ′. ς′.	Ἀπρ. ιθ′. ζ′.	Ἀπρ. κε′. α′.	Ἀπρ. κδ′. β′.	Ἀπρ. κγ′. γ′.	Ἀπρ. κβ′. δ′.	
θ′.	**ς′.**	**Ἀπρ. ζ′.**	Ἀπρ. ιδ′. α′.	Ἀπρ. ιγ′. β′.	Ἀπρ. ιβ′. γ′.	Ἀπρ. ια′. δ′.	Ἀπρ. ι′. ε′.	Ἀπρ. θ′. ς′.	Ἀπρ. η′. ζ′.	
κ′.	**ζ′.**	**Μαρ. κζ′.**	Μαρ. λα′. δ′.	Μαρ. λ′. ε′.	Μαρ. κθ′. ς′.	Ἀπρ. ιη′. ζ′.	Ἀπρ. ιζ′. α′.	Ἀπρ. ις′. β′.	Ἀπρ. κβ′. γ′.	
α′.	**η′.**	**Ἀπρ. ιε′.**	Ἀπρ. κα′. β′.	Ἀπρ. κ′. γ′.	Ἀπρ. ιθ′. δ′.	Ἀπρ. ιη′. ε′.	Ἀπρ. ιζ′. ς′.	Ἀπρ. ις′. ζ′.	Ἀπρ. κβ′. α′.	
ιβ′.	**θ′.**	**Ἀπρ. δ′.**	Ἀπρ. ζ′. ε′.	Ἀπρ. ς′. ς′.	Ἀπρ. ε′. ζ′.	Ἀπρ. ιδ′. α′.	Ἀπρ. ι′. β′.	Ἀπρ. θ′. γ′.	Ἀπρ. η′. δ′.	
κγ′.	**ι′.**	**Μαρ. κδ′.**	Μαρ. λα′. α′.	Μαρ. λ′. β′.	Μαρ. κθ′. γ′.	Μαρ. κη′. δ′.	Μαρ. κζ′. ε′.	Μαρ. κς′. ς′.	Μαρ. κε′. ζ′.	
δ′.	**ια′.**	**Ἀπρ. ιβ′.**	Ἀπρ. ιδ′. ς′.	Ἀπρ. ιγ′. ζ′.	Ἀπρ. ιθ′. α′.	Ἀπρ. ιη′. β′.	Ἀπρ. ιζ′. γ′.	Ἀπρ. ις′. δ′.	Ἀπρ. ιε′. ε′.	
ιε′.	**ιβ′.**	**Ἀπρ. α′.**	Ἀπρ. ζ′. β′.	Ἀπρ. ς′. γ′.	Ἀπρ. ε′. δ′.	Ἀπρ. δ′. ε′.	Ἀπρ. γ′. ς′.	Ἀπρ. β′. ζ′.	Ἀπρ. η′. α′.	
κς′.	**ιγ′.**	**Μαρ. κα′.**	Ἀπρ. κδ′. ε′.	Ἀπρ. κγ′. ς′.	Ἀπρ. κβ′. ζ′.	Μαρ. κη′. α′.	Μαρ. κζ′. β′.	Μαρ. κς′. γ′.	Μαρ. κε′. δ′.	
ζ′.	**ιδ′.**	**Ἀπρ. θ′.**	Ἀπρ. ιδ′. γ′.	Ἀπρ. ιγ′. δ′.	Ἀπρ. ιβ′. ε′.	Ἀπρ. ια′. ς′.	Ἀπρ. ι′. ζ′.	Ἀπρ. ις′. α′.	Ἀπρ. ιε′. β′.	
ιη′.	**ιε′.**	**Μαρ. κθ′.**	Μαρ. λα′. ς′.	Μαρ. λ′. ζ′.	Ἀπρ. ε′. α′.	Ἀπρ. δ′. β′.	Ἀπρ. γ′. γ′.	Ἀπρ. β′. δ′.	Ἀπρ. α′. ε′.	
κθ′.	**ις′.**	**Ἀπρ. ιζ′.**	Ἀπρ. κα′. δ′.	Ἀπρ. κ′. ε′.	Ἀπρ. ιθ′. ς′.	Ἀπρ. ιη′. ζ′.	Ἀπρ. κδ′. α′.	Ἀπρ. κγ′. β′.	Ἀπρ. κβ′. γ′.	
ια′.	**ιζ′.**	**Ἀπρ. ε′.**	Ἀπρ. ζ′. ς′.	Ἀπρ. ς′. ζ′.	Ἀπρ. ιβ′. α′.	Ἀπρ. ια′. β′.	Ἀπρ. ι′. γ′.	Ἀπρ. θ′. δ′.	Ἀπρ. η′. ε′.	
κβ′.	**ιη′.**	**Μαρ. κε′.**	Μαρ. λα′. β′.	Μαρ. λ′. γ′.	Μαρ. κθ′. δ′.	Μαρ. κη′. ε′.	Μαρ. κζ′. ς′.	Μαρ. κς′. ζ′.	Ἀπρ. α′. α′.	
γ′.	**ιθ′.**	**Ἀπρ. ιγ′.**	Ἀπρ. ιδ′. ζ′.	Ἀπρ. κ′. α′.	Ἀπρ. ιθ′. β′.	Ἀπρ. ιη′. γ′.	Ἀπρ. ιζ′. δ′.	Ἀπρ. ιζ′. ε′.	Ἀπρ. ιε′. ς′.	

CANONION[a] B

Themelios of the Moon	The Lunar Cycles	The *Nomikon Faska*	**1**	**2**	**3**	**(9)**	**(10)**	**5**	**6**	The Solar Cycles Seven times four[x]
			7	**(13)**	**(14)**	**(15)**	**(21)**	**11**	**(17)**	
			(18)[b]	**(19)**	**(25)**	**(<u>26</u>)**[c]	**(27)**	**(22)**	**[23]**[d]	
			(12)	**(<u>24</u>)**	**(<u>8</u>)**	**20**	**(<u>4</u>)**	**(16)**	**28**	
14	**1**	**Apr. 2**	Apr. 7 Tues.	Apr. 6 Wed.	Apr. 5 Thurs.	Apr. 4 Fri.	Apr. 3 Sat.	Apr. 9[e] Sun.	Apr. 8[f] Mon.	The letters located on the lower line indicate the day of the week on which the *Nomikon* Pascha is located.[y]
25	**2**	**Mar. 22**	Mar. 24 Fri.	Mar. 23 Sat.	Mar. 29[g] Sun.	Mar. 28[h] Mon.	Mar. 27 Tues.	Mar. 26 Wed.	Mar. 25 Thurs.	
6	**3**	**Apr. 10**	Apr. 14 Wed.	Apr. 13 Thurs.	Apr. 12 Fri.	Apr. 11 Sat.	Apr. 17 Sun.	Apr. 16 Mon.	Apr. 15 Tues.	
17	**4**	**Mar. 30**	Mar. 31 Sat.	Apr. 6 Sun.	Apr. 5 Mon.	Apr. 4 Tues.	Apr. 3 Wed.	Apr. 2 Thurs.	Apr. 1 Fri.	
28	**5**	**Apr. 18**	Apr. 21[i] Thurs.	Apr. 20 Fri.	Apr. 19 Sat.	Apr. 25 Sun.	Apr. 24 Mon.	Apr. 23 Tues.	Apr. 22 Wed.	
9	**6**	**Apr. 7**	Apr. 14 Sun.	Apr. 13[j] Mon.	Apr. 12 Tues.	Apr. 11 Wed.	Apr. 10 Thurs.	Apr. 9 Fri.	Apr. 8 Sat.	
20	**7**	**Mar. 27**	Mar. 31 Wed.	Mar. 30 Thurs.	Mar. 29 Fri.	Mar. 28[k] Sat.	Apr. 3[l] Sun.	Apr. 2[m] Mon.	Apr. 1[n] Tues.	
1	**8**	**Apr. 15[o]**	Apr. 21 Mon.	Apr. 20 Tues.	Apr. 19 Wed.	Apr. 18 Thurs.	Apr. 17 Fri.	Apr. 16 Sat.	Apr. 22 Sun.	
12	**9**	**Apr. 4**	Apr. 7 Thurs.	Apr. 6 Fri.	Apr. 5 Sat.	Apr. 11[p] Sun.	Apr. 10 Mon.	Apr. 9 Tues.	Apr. 8 Wed.	
23	**10**	**Mar. 24**	Mar. 31 Sun.	Mar. 30 Mon.	Mar. 29 Tues.	Mar. 28 Wed.	Mar. 27 Thurs.	Mar. 26 Fri.	Mar. 25 Sat.	
4	**11**	**Apr. 12**	Apr. 14 Fri.	Apr. 13 Sat.	Apr. 19 Sun.	Apr. 18 Mon.	Apr. 17 Tues.	Apr. 16 Wed.	Apr. 15 Thurs.	
15	**12**	**Apr. 1**	Apr. 7[q] Mon.	Apr. 6 Tues.	Apr. 5 Wed.	Apr. 4 Thurs.	Apr. 3 Fri.	Apr. 2 Sat.	Apr. 8 Sun.	
26	**13**	**Mar. 21**	Mar. 24[r] Thurs.	Mar. 23[s] Fri.	Mar. 22 Sat.	Mar. 28 Sun.	Mar. 27 Mon.	Mar. 26 Tues.	Mar. 25 Wed.	
7	**14**	**Apr. 9**	Apr. 14 Tues.	Apr. 13 Wed.	Apr. 12 Thurs.	Apr. 11 Fri.	Apr. 10 Sat.	Apr. 16 Sun.	Apr. 15 Mon.	
18	**15**	**Mar. 29**	Mar. 31 Fri.	Mar. 30 Sat.	Apr. 5 Sun.	Apr. 4 Mon.	Apr. 3 Tues.	Apr. 2 Wed.	Apr. 1 Thurs.	
29[t]	**16**	**Apr. 17**	Apr. 21 Wed.	Apr. 20 Thurs.	Apr. 19 Fri.	Apr. 18 Sat.	Apr. 24 Sun.	Apr. 23 Mon.	Apr. 22 Tues.	
11[u]	**17**	**Apr. 5**	Apr. 7 Fri.	Apr. 6 Sat.	Apr. 12 Sun.	Apr. 11 Mon.	Apr. 10 Tues.	Apr. 9 Wed.	Apr. 8 Thurs.	
22	**18**	**Mar. 25**	Mar. 31 Mon.	Mar. 30 Tues.	Mar. 29 Wed.	Mar. 28 Thurs.	Mar. 27 Fri.	Mar. 26 Sat.	Apr. 1 Sun.	
3	**19**	**Apr. 13**	Apr. 14 Sat.[v]	Apr. 20 Sun.	Apr. 19 Mon.	Apr. 18 Tues.	Apr. 17 Wed.	Apr. 16[w] Thurs.	Apr. 15 Fri.	

NOTES:

[a] I have used the *Canonion* found on the right hand side of the insert between pages 420 and 421 of the Greek text by Rhalles and Potles, Vol. 6, as the primary source, and I have compared this to the Greek and Latin versions given by Migne, *PG* 145, Columns 87 – 90. I also checked it against the "*Paschalion* of Saint John the Damascene," Greek and Latin versions of which are found in Migne, *PG* 95, Columns 239 – 242, and against current liturgical books of the Church of Greece. I provide annotations indicating the discrepancies between the *Canonion* as presented here in English and the texts in both cited volumes by Migne. In addition, I note the corrections I have considered desirable for clarity or necessary on account of evident errors in the primary source.

[b] Considerable discrepancies are noted with regard to the Solar Cycle cells between the *Canonion* of Vlastares (which is identical in both sources) and the *Paschalion* of St. John Damascene. I consider the latter to be more authoritative (since it is in agreement with the liturgical books of the Church of Greece) and I include the corresponding cell entries from it in parentheses, e.g., **(00)**. For example, whereas the Vlastares texts in Rhalles and Potles (Greek) and Migne (Greek and Latin) give 12 in the present cell, that of the Damascene has 18, instead (Migne, *PG* 95, Greek and Latin). In most cases, the discrepancies are innocuous, since they merely present the entries in different rows but in the same columns. See below for additional discrepancies in the Solar Cycles.

[c] In this and in three more cases, the Solar Cycle cell entries in Damascene's *Paschalion* are not only different from Vlastares', but they occur in different columns, which — of course — are associated with completely different Paschal dates. These four significant discrepancies are noted by underlining the Damascene values given in parentheses, e.g., **(<u>00</u>)**, and which are in agreement with the liturgical books of the Church of Greece.

[d] This is the only case in which the Solar Cycle entry of St John Damascene contains an evident error. The value in Migne, *PG* 95 (Greek and Latin) is 26, which would be a duplicate. I have corrected this entry to **[23]**, enclosed in brackets, which is in agreement with the liturgical books of the Church of Greece. This also agrees with §7.4.

[e] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 2, which would coincide with the *Nomikon* Pascha that falls on Apr. 2. I have corrected the date in this cell to Apr. 9, which also agrees with the Damascene *Paschalion*.

[f] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 1, which would precede the *Nomikon* Pascha that falls on Apr. 2. I have corrected the date in this cell to Apr. 8, which also agrees with the Damascene *Paschalion*.

[g] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Mar. 25, which is clearly not a Sunday if the *Nomikon* Pascha falls on

Mar. 22 and on a Sunday. I have corrected the date in this cell to Mar. 29, which also agrees with the Damascene *Paschalion*.

[h] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Mar. 29, which is clearly not a Sunday if the *Nomikon* Pascha falls on Mar. 22 and on a Monday. I have corrected the date in this cell to Mar. 28, which also agrees with the Damascene *Paschalion*.

[i] The text in Rhalles and Potles gives this entry as April 20, evidently due an error of duplicating the content of the cell immediately to the right. I have corrected this entry to 21, which is in agreement with the liturgical books of the Church of Greece. The corrected value also agrees with the Damascene *Paschalion*.

[j] This and the next five cells immediately to the right contain discrepancies in the Vlastares text by Migne (Greek and Latin), evidently due to a reshuffling of these entries. I have retained the values given by Rhalles and Potles, which are also in agreement with the liturgical books of the Church of Greece. The values retained also agree with the Damascene *Paschalion*.

[k] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 18, which is more than a week after the *Nomikon* Pascha that falls on Mar. 27. I have corrected the date in this cell to Mar. 28, which also agrees with the Damascene *Paschalion*.

[l] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 17, which is more than a week after the *Nomikon* Pascha that falls on Mar. 27. I have corrected the date in this cell to Apr. 3, which also agrees with the Damascene *Paschalion*.

[m] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 16, which is more than a week after the *Nomikon* Pascha that falls on Mar. 27. I have corrected the date in this cell to Apr. 2, which also agrees with the Damascene *Paschalion*.

[n] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 22, which is more than a week after the *Nomikon* Pascha that falls on Mar. 27. I have corrected the date in this cell to Apr. 1, which also agrees with the Damascene *Paschalion*.

[o] The Damascene entry here is April 7 rather than April 15, as given by Vlastares (both sources). The discrepancy is probably due to a scribe's error, who duplicated April 7 from LC = 6. The Vlastares text is considered to be correct in this case, since it agrees with the result of the algorithm described in §7.13, which also reproduces the remainder of the *Nomika* Pascha given in this column, and which is also in agreement with the liturgical books of the Church of Greece.

[p] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 14, which is more than a week after the *Nomikon* Pascha that falls on Apr. 4. I have corrected the date in this cell to Apr. 11, which also agrees with the

Damascene *Paschalion*.

[q] The date for the Christian Pascha in the Damascene *Paschalion* (Greek and Latin versions) is given as Apr. 17, which is more than two weeks after the *Nomikon* Pascha that falls on Apr. 1. I have retained the date of Apr. 7 given in this cell in Vlastares' *Canonion* (both sources), which also agrees with the liturgical books of the Church of Greece.

[r] This and the next two entries to the right are given in Vlastares' *Canonion* (both sources) as April dates. I have corrected them to March, which also agrees with the Damascene *Paschalion*.

[s] The day of the week is missing from this and the five cells to the right in Migne's Greek and Latin text of Vlastares' *Canonion*. I have retained the days of the week given in these cells in the text by Rhalles and Potles, which also agree with the liturgical books of the Church of Greece.

[t] The Damascene entry here is 27 rather than 29, as given by Vlastares. The latter is considered to be correct since it agrees with the result of the algorithm described in §7.10, which also reproduces the remainder of the *Themelia* given in this column, and which is in agreement with the liturgical books of the Church of Greece. Note, however, that this entry would have been 30 if the *saltus lunae* were accounted for (see §§7.5.20n; 7.10.1n, 11n).

[u] The Damascene entries here and in the next two *Themelia* cells are one less than those given by Vlastares, evidently on account of the addition 3 rather than 4 days during the calculation (see §7.10). Thus, the Damascene list reads 10, 21, 2, instead of 11, 23, 3. These discrepancies are innocuous, since they are compensated for during the determination of the *Nomikon* Pascha (see §7.13.2, 4). Yet, §7.13B.4 assumes the Damascene list, instead. Moreover, the liturgical books of the Church of Greece generally retain the lesser Damascene values. Note that the entry in this cell corresponds to the beginning of the second year in Anatolius' *Paschal Canon*, Chapter 13 (c. AD 270): "On the day before the Kalends of January , the 365th day, the moon's 11th; on the Kalends of January, the 366th day, the moon's 12th" (see Roberts and Donaldson, p. 150). Cf. §7.7.3n.

[v] The Latin version of Vlastares' *Canonion* in Migne lists the day in this cell as Sunday (7), even though the corresponding Greek entry is Saturday (ϛ).

[w] The date for the Christian Pascha in Vlastares' *Canonion* (both sources) is given as Apr. 17, which is clearly not a Sunday if the *Nomikon* Pascha falls on Apr. 13 and on a Thursday. I have corrected the date in this cell to Apr. 16, which also agrees with the Damascene *Paschalion*.

[x] The Greek text in Migne reads: Cycle of the sun of 28 years.

[y] The Greek text in Migne reads: The lower numbers show on which day [of the week] occurs the *Nomikon* Pascha.

Abridged Greek Vocabulary

ἁγιάζω: consecrate
ἅγιος: holy
ἄγραφος: unwritten
ἄζυμα: unleavened [bread]
αἰτία: cause
ἄκαιρον: inopportune
ἀληθής: true
ἀλόγως: unreasonably
ἄλφα: the first letter of the Greek alphabet, Αα
ἁμαρτία: sin
ἀμφότερα: both
ἀνακύκλησις: iteration
ἀναλογία: proportion
ἀναλύω: separate; analyze
ἀναπλάσις: recreation
ἀναστάσιμος: of the resurrection
ἀνατολή: rising [of the sun]
ἄνθρωπος: Man; human
ἀνισότης: inequality
ἀνωμαλία: irregularity
ἀνελλιπής: not incomplete; complete
ἀποκαταστασις: completion
ἀπόκρεως: meatfare Sunday
ἀπονηστίζομαι: end the fast
ἀπρεπές: improper
ἀριθμός: number
ἅρπαξ: abductor
ἀρτίως: currently
ἀρετή: virtue
ἀσέβεια: impiety
ἄσιτος: [one] without food
ἀστροθεάμων: observer of the stars
ἀστρονόμος: astronomer
αὐγάζω: illumine
ἀφαιρετέον: let [it] be subtracted
ἀφορισμός: excommunication
ἄφελε: subtract
ἄφεσις: starting-post
ἀφετηρία: staring place [of a race]

βῆμα: bema; altar
βίσεκτος: leap [year]
βόρειος: northern

γένεσις: creation

γῆ: earth
γόης: magician; spell-caster

δάκτυλος: fingers
δεύτερον: second [minute]
δημιουργία: creation
δῆμος: [the] public
διαβατήρια: Passover
διάβολος: devil
διάγραμμα: diagram
διαθήκη: Covenant; Testament
διακαινίσιμος: renewal [week]; the week following Pascha
διάμετρος: diametral (adj.)
διάστημα: interval
διατηρέω: preserve
διαφωνία: disagreement
διορισμός: stipulation
δορυφορέω: escort
δρόμος: course; race; day
δύσις: sunset; setting [of the sun]
δύω: set
δωδεκατημόριον: one-twelfth portion
δῶρον: gift

ἐαρινή: Spring (adj.)
ἑβδομάς: week
Ἑβραῖος: Hebrew; Jew
ἔγγιστα: most approximately
ἔγκλημα: accusation
ἔθος: custom
εἰκών: icon
ἕκαστος: each
ἑκατονταετηρίς: century
ἔκβαλε: remove
ἐκκλησία: church
ἔκλειψις: eclipse
ἕκτη: Friday; sixth
ἐλάττονα: lesser; the remainder
ἐλαττοῦμαι: fall behind; be truncated
ἔλλειψις: deficiency
Ἕλλην: [pagan] Greek
ἐμβόλιμος: intercalary
ἐμπειρία: experience
ἐναντία: the [path that is] opposite to the entire world; celestial [path]
ἐναργής: bold
ἐνδέω: lack
ἐνδεκαπλασιάζω: multiply by eleven
ἐνηλλαγμένως: in sequence
ἐνιαύσιος: annual
ἐνιαυτός: year
ἐνιστάμενος: current
ἐννεακαιδεκαετηρίς: nineteen year cycle
ἑνώσας: having combined
ἐνεστώς: current
ἐξουσία: authority
ἑορτάζω: celebrate
ἑορτή: feast
ἐπακτή: epact; additional
ἐπέκεινα: beyond
ἐπίκαιρος: pertaining to [this] season

ἐπινέμησις: redistribution
ἐπιόν: the following [one]
ἐπιούσα: next day
ἐπιτελεῖν: celebrate
ἐπιφώσκουσα: shedding light upon
ἐπουσία: the following [day]
ἐπείσακτος: alien; introduced subsequently
ἐρχόμενον: the coming [one]
ἑσπέρα: evening
ἑσπερία: afternoon
ἐσχολακώς: erudite
ἐτησίως: annually
ἔτος: year
εὐλογία: blessing
εὐσέβεια: piety
εὔσχημος: decent; honorable
εὐσεβής: pious

ζημιῶ: punish
ζυγός: Libra; scales
ζωδιακός: zodiac [circle]
ζώδιον: zodiac [constellation]

ἡλιακός: solar
ἡλικία: age, stature, growth
ἥλιος: sun
ἡμέρα:day; day-time
ἡμέτερος: ours
ἡμισεία: half
ἧττονα: lesser

θεῖος: divine
θεμέλιος:
θεσμός: ordinance
θεσπίζω: promulgate

ἰδιώται: ordinary folk
Ἴνδικτος: Indiction
Ἰουδαῖος: Judaean; Jew
ἰσημερία: equinox
ἰσημερινός: equator; equatorial
ἰσότης: equality
ἴσον: equal
ἱερόν: sacred place
ἱερόσυλος: sacrilegist
ἱερωσύνη: priesthood

καθαίρεσις: defrocking
καθέδρα: seat; chair
καινή: New [Sunday]; Sunday after Pascha
καινοτομέω: innovate
καιρός: season
κάλανδαι: calends
κανόνιον: rule
κανών: canon
καταλειφθέντα: residual
κατάνυξις: compunction
κατολιγωρεῖν: utterly take no heed of
κάτεσχε: retain
κέλευσις: command
κεφάλαιον: capital [event]
κεφαλή: head
κίνησις: movement
κίνησις: movement

κληρικός: cleric
κλῆρος: clergy
κοινός: common; ordinary
κοινωνέω: commune
κόσμος: world
κράτησον: retain
κριός: Aries; ram
κτίσις: creation
κύκλος: cycle; circle
κυριακή: Sunday; [day] of the Lord
κύριον: dominical; dominant

λαός: people
Λατῖνος: Latin [Roman Catholic]
λείπω: lack
λεπτόν: minute
λῆξις: end
λόγος: reason
λοξός: [the] ecliptic; oblique arc

μέγιστος: greatest
μέγεθος; length
μεινάντων: remaining
μερίζω: divide
μέρισον: divide
μέση: mid
μεσημβρία: noon
μεσημβρινός: meridian
μήν: month
μικρά: minor [years]; years since the beginning of the century concerned
μοῖρα: sector
μοιχός: adulterer
μυστήριον: mystery; sacrament

νήστιμος: fasting
νηστεία: fast
νοητός: intelligible
νομικόν: legal; of the [Mosaic] law
νόμος: law
νότιος: southern
νυκτερινός: of the night
νύξ: night; night-time
νυχθήμερον: day-and-night [cycle]

οἰκονομία: dispensation
οἰκεῖος: [one's] own
ὁμαλός: not irregular; uniform
ὀπισθόρμητος: backward tending
ὀπτασία: vision
ὄρθρος: dawn
ὅρος: ordinance
ὅσιος: hallowed
οὐράνιος: celestial
ὀψέ: late

πάθος: passion
πανηγυρίζω: celebrate
πανσέληνος: full moon
παράγω: bring forth
παράδοσις: tradition
παράλληλος: parallel
παραλειπόμενος: residual
παρασκευή: Friday; preparation

παροικία: parish
πάσχα: Pascha; the feast of the Lord's resurrection
πασχάλιος: Paschal
πατήρ: father
πατροκτόνος: patricide
πεντεκαιδέκατος: fifteenth
περίβολος: bulwark
περιλειφθείῃ: [if] remaining [is]
περιοδικός: [the] periodic
περίοδος: circuit; period
περιστροφή: revolution
περιττός: superfluous
περιττεύω: overflow
πιστός: faithful
πλάνη: deception
πλανήτης: planet
πλάσις: creation
πλάττω: fashion (vb.)
πλημμέλεια: error
πλησιφαής: fully illumined
πνευματικός: spiritual
πολιτικός: civil
πολυπλασιάζω: multiply
ποσότης: quantity
ποστή: which [numerical] date
προθεσμία: deadline
προκείμενος: prescribed
πρόσθες: add
προσμένω: wait [until]
προστέθεικεν: has added
προσευχή: prayer
πρόχειρος: roughly
πρῶτον: first [minute]
πταῖσμα: fault

ῥᾶστος: most easy
Ῥωμαῖος: Roman

σεβάσμιον: revered
σελήνη: moon
σεληνιακός: lunar
σελίδιον: column
σημεῖον: point
σκοπεύω: contemplate; examine
σκοτία: darkness
σκότος: darkness
στάσις: revolt
στέρησις: deprivation
στοιχεῖον: element
συζυγία: conjunction or opposition of the moon
συμβαίνω: happen
συνάγω: accumulate
σύνοδος: synod; council
σύνταγμα: compilation, compendium
σχῆμα: configuration
σχηματισμός: configuration
σωτήριον: salvific

τάφος: sepulcher
τέλειος: perfect; ultimate
τελετή: celebration
τεσσαρεσκαιδεκάτη: fourteenth
τετάρτη: Wednesday; fourth [day]
τεταρτημόριον: one quarter

τέχνη: art
τέως: completed
τμῆμα: sector
τομή: section
τρέχον: running
τριακοντάς: [a quantity of] thirty
τριήμερος: third-day [resurrection]
τυμβωρύχος: grave robber
τυροφάγος: cheesefare Sunday

ὕμνος: hymn
ὑπόθεσις: subject
ὑπολειπόμενος: remaining
ὑποφαίνω: display
ὑποψία: suspicion
ὑφαιρετέον: let [it] be subtracted
ὑφηγητής: initiator; leader
ὕφελε: divide

φαρμακός: drug panderer; poisoner
φέρω: carry
φθινοπωρινός: autumnal
φθίνω: wane
φονεύς: murderer
φρόνημα: belief
φυλακή: prison
φύσις: nature
φῶς: light
φωστήρ: luminary
φῶτα: [celestial] lights
φωτισμός: illumination

χρησμός: decretal
Χριστιανός: Christian
χρόνος: year; time
χώρα: region

ψαλμός: chant; psalm
ψηφίζω: compute

ᾠδή: song
ᾠήθη: [it] is customary
ὥρα: hour

Bibliography

Agapios Priest-Monk and Nicodemus Monk (1800), *Πηδάλιον* (=The Rudder), in Greek, Breitkopf and Eirtel Press, Leipzig of Saxony, Germany.

Archer, P. (1941), *The Christian Calendar and the Gregorian Reform*, Fordham University Press, New York, NY.

Aveni, A. F. (1989), *Empires of Time–Calendars, Clocks, and Cultures*, Basic Books, Inc., New York, NY.

Boyle, I. (1955, reprinted 1981), *The Ecclesiastical History of Eusebius Pamphilus*, Baker Book House, Grand Rapids, MI.

Cantalamessa, R. (1993), *Easter in the Early Church*, Liturgical Press, Collegeville, MN.

Chadwick, H. (1981), *The Early Church*, Penguin Books, New York, NY.

Cohn, L. (1902), *Philonis Alexandrini Opera Quae Supersunt*, Vol. 4, Reimer, Berlin, Germany.

Cummings, D. (1957), *The Rudder*, The Orthodox Christian Educational Society, Chicago, IL.

Daniélou, J. and Marrou, H. (1979), *The First Six Hundred Years*, Paulist Press, New York, NY.

Delempases, A. D. (1985), *Πάσχα Κυρίου* (=The Lord's Pascha), in Greek, G. Koukoudakes, Athens, Greece.

Dobrzycki, J. (1983), "Astronomical Aspects of the Calendar Reform," in *Gregorian Reform of the Calendar*, Pontificia Academia Scientiarium, The Vatican.

Duncan, D.E., *Calendar–Humanity's Epic Struggle to Determine a True and Accurate Year*, Avon Books, Inc.: 1998, New York, NY.

Encyclopaedia Judaica (1971), Vol. 5 (C-Dh), Col. 48, The McMillan Company, Jerusalem, Israel.

Évieux, P., Burns, W.H., *et al.* (1991), *Cyrille D'Alexandrie Lettres Festales I-VI*, In French, Sources Chrétiennes No. 372, Éditions du CERF, Paris, France.

Finegan, J. (1998), *Handbook of Biblical Chronology*, Revised Edition, Hendrickson Publishers, Peabody, MA.

Fitch, H. (1938), *The Perfect Calendar for Every Year of the Christian Era*, Funk and Wagnalls, New York, NY.

Gedeon, M.I. (1885), *Πατριαρχικοὶ Πίνακες* (=Patriarchal Tables), in Greek, Lorenz & Keil, Constantinople, Turkey.

_____ (1888), *Κανονικαὶ Διατάξεις* (=Canonical Stipulations), in Greek, Patriarchal Press, Constantinople, Turkey.

Ginzel, F.K. (1906), *Handbuch der Mathematischen und Technischen Chronologie*, Vol. 1, J.C. Heinrichs'sche Buchhandlung, Leipzig, Germany.

_____ (1914), *Handbuch der Mathematischen und Technischen Chronologie*, Vol. 3, J.C. Heinrichs'sche Buchhandlung, Leipzig, Germany.

Goldstine, H.H. (1973), *New and Full Moons 1001 B.C. to A.D. 1651*, American Philosophical Society, Philadelphia, PA.

Greenberg, B. (1984), "Jewish Rhythm," in Tillem, I.L., *The Jewish Directory and Almanac*, Pacific Press, New York, NY.

Grumel, V. (1958), "La Chronologie," in *Traité D'Études Byzantines*, P. Lamerle, Ed., Vol. I, Presses Universitaires de France, Paris, France.

Hefele, C.J. (1894), *A History of the Christian Councils*, Vol. 1, T. & T. Clark, Edinburgh, Scotland.

Heilbron, J.L. (1999), *The Sun in the Church: Cathedrals as Solar Observatories*, Harvard University Press, Cambridge, MA.

Hetherington, N.S., Editor, *Encyclopedia of Cosmology* (1993), Garland Publishing, Inc., New York, NY.

Hoyle, F. (1962), *Astronomy*, Crescent Books, Inc., London, Great Britain.

Jones, C.W. (1943), *Bedae Opera de Temporibus*, Mediaeval Academy of America, Cambridge, MA.

Jungmann, J.A. (1959), *The Early Liturgy to the Time of Gregory the Great*, University of Notre Dame Press, Notre Dame, IN.

Katses, D.N. (1964), "Ἐπακτή," in *Θρησκευτικὴ καὶ Ἠθικὴ Ἐγκυκλοπαιδεία* (=Religious and Moral Encyclopaedia), in Greek, Vol. 5, Athens, Greece.

Liddell, H.G. and Scott, R. (1883), *Oxford Greek Lexicon*, Oxford University Press, Oxford, England.

McCluskey, S.C. (1998), *Astronomies and Cultures in Early Medieval Europe,* Cambridge University Press, Cambridge, U.K.

Μεγάλη Ἑλληνικὴ Ἐγκυκλοπαιδεία, Vol. 19, "Πάσχα," p. 774 (Pyrsos Co., Ltd.: Athens, Greece).

Manitius, C. (1898), *Gemini Elementa Astronomiae*, Lipsiae, Saxony, Germany.

Migne, Jacques-Paul (1800-1875) "*Patrologiæ Cursus Completus... Series Græca Posterior*," Paris, France.

Neugebauer, O. (1975), *A History of Ancient Mathematical Astronomy*, Springer-Verlag, New York, NY.

Newton, R.R. (1972), *Medieval Chronicles and the Rotation of the Earth*, The Johns Hopkins University Press, Baltimore, MD.

_____ (1977), *The Crime of Claudius Ptolemy*, The Johns Hopkins University Press, Baltimore, MD.

Niebuhr, B.G. (1829), *Corpus Scriptorum Historiae Byzantinae*, Pars XIX, Vol. I, L. Schopen, Ed., Bonnae, Prussia.

Ogg, G. (1955), *The Pseudo-Cyprianic De Pascha Computus Translated with Brief Annotations*, S.P.C.K., London, England.

O'Neil, W.M. (1978), *Time and Calendars*, Sydney University Press, Sydney, Australia.

Parise, F., Editor (1982), *The Book of Calendars*, Facts on File, Inc., New York, NY.

Pasachoff, J.M. (1989), *Contemporary Astronomy*, 4th Ed., Saunders College Publishing, Philadelphia, PA.

Paschos, P.B. (1972), *Ἄγνωστα Ἔργα τοῦ Βλάσταρι*, (=Unknown Works of Vlastares), in Greek, *Theologia*, 43, Athens, Greece.

_____ (1978), *Ὁ Ματθαῖος Βλάσταρης καὶ τὸ Ὑμνογραφικὸν Ἔργον του*, (=Matthew Vlastares and his Hymnographic Work), in Greek, Idryma Meleton Chersonesou tou Aimou No. 183, Thessalonike, Greece.

Pedersen, O. (1983), "The Ecclesiastical Calendar and the Life of the Church," in *Gregorian Reform of the Calendar*, Pontificia Academia Scientiarium, The Vatican.

Pickering, J.S. (1973), *1001 Questions Answered About Astronomy*, Dodd, Mead & Co., New York, NY.

Popovic, C. (1900), *Capitulul al Şeptelea al Literei P din Sintagma Alfabeticâ a lui Mateiŭ Vlastar: "Despre Săntele Pasce" sau "Despre Computul Pascal,"* Societatea Tipograficā Bucovineanā, Cernāuţī, formerly in Rumania, currently in Ukraine.

Redl, G. (1930), "La Chronologie appliquée de Michel Psellos," in *Byzantion*, 5.

Rhalles, G.A. and Potles. M. [Γ.Α. Ῥάλλη καὶ Μ. Ποτλῆ] (1852–1859), *Σύνταγμα τῶν θείων καὶ ἱερῶν κανόνων τῶν τε Ἁγίων καὶ πανευφήμων Ἀποστόλων, καὶ τῶν ἱερῶν οἰκουμενικῶν καὶ τοπικῶν συνόδων καὶ τῶν κατὰ μέρος Ἁγίων πατέρων* (=Compilation of the divine and sacred canons of the holy and most-laudable apostles as well as of the sacred ecumenical and regional synods and of the holy fathers in various locations), in Greek, 6 vols., G. Chartophylax and Avge Publishers, Athens, Greece.

Rhodopoulos, Metropolitan Panteleimon (1993), *Τὸ Σύνταγμα τοῦ Ματθαίου Βλάσταρη καὶ ἡ Ἐπίδραση του στὸν Σλαβικὸ Κόσμο*, (=The *Syntagma* of Matthew Vlastares and Its Influence on the

Slavic World), in Greek, *Analekta Vlatadon* 56, Patriarchikon Idryma Paterikon Meleton, Thessalonike, Greece.

Richards, E. G. (1999), *Mapping Time — The Calendar and its History*, Oxford University Press, Oxford, England.

Roberts, A. and Donaldson, J., Editors (1886, reprinted 1968), *The Ante-Nicene Fathers*, Vol. 6, W.B. Eerdmans, Grand Rapids, MI.

Sathas, K. N. (1870), *Βιογραφικὸν Σχεδίασμα περὶ τοῦ Πατριάρχου Ἱερεμίου Β (1572-1594)* (= Biographical Outline about Patriarch Jeremias II (1572-1594)), in Greek, A. Ktenas and S. Oeconomos Press, Athens, Greece.

Stavrides, V. Th. (1987), *Ἱστορία τοῦ Οἰκουμενικοῦ Πατριαρχείου (1453–Σήμερον)* (=History of the Ecumenical Patriarchate (1453–Today)), in Greek, Adelfoi Kyriakide Publishing House, Thessalonike, Greece.

Steel, D. (2000), *Marking Time: The Epic Quest to Invent the Perfect Calendar*, John Wiley & Sons, Inc., New York, NY.

Stern, S. (2001), *Calendar and Community: A History of the Jewish Calendar, Second Century BCE–Tenth Century CE*, Oxford University Press, Oxford, England.

Stevens, W. M. (1995), *Cycles of Time and Scientific Learning in Medieval Europe*, Variorium, Aldershot, Great Britain.

Strahler, A. N. (1963), *The Earth Sciences*, Harper & Row, New York, NY.

Taliaferro, R. C. (1990), "The Almagest," in *Great Books of the Western World*, Vol. 15, Second Ed., Encyclopaedia Brittanica, Inc., Chicago, IL.

Talley, T. J. (2000), "History and Eschatology in the Primitive Pascha," in *Between Memory and Hope: Readings on the Liturgical Year*, The Liturgical Press, Collegeville, MN.

Theocharides, G. I. (1970), *Ὁ Ματθαῖος Βλάσταρις καὶ ἡ Μονὴ τοῦ κὺρ-Ἰσαὰκ ἐν Θεσσαλονίκῃ*, (= Matthew Vlastares and the Monastery of Kyr-Isaac in Thessalonike), in Greek, *Byzantion*, XL (40), Brussels, Belgium.

Tihon, A. (1994), *L'Astronomie byzantine (du Ve au XVe siècle)*,

in "Études d'astronomie byzantine," Variorum, Aldershot, Hampshire, Great Birtain.

_____ (1994), *Enseignement scientifique à Byzance*, in "Études d'astronomie byzantine," Variorum, Aldershot, Hampshire, Great Britain.

_____ (1999), "Theon of Alexandria and Ptolemy's *Handy Tables,*" in *Ancient Astronomy and Celestial Divination*, N.M. Swerdlow, Ed., The MIT Press, Cambridge, MA.

Toomer, G. J., *Ptolemy's Almagest*, Princeton University: 1998, Princeton, NJ.

Troianos, S. (1979), *Περὶ τὰς νομικὰς πηγὰς τοῦ Ματθαίου Βλάσταρη*, (= About the legal sources of Matthew Vlastares), in Greek, Ἐπετηρὶς Ἑταιρείας Βυζαντινῶν Σπουδῶν, Vol. 44, pp. 305–329, Athens, Greece.

Troianos, S. N. (1998), *Ἀνατολὴ καὶ Δύση στὸ Κανονικὸ Ἔργο τοῦ Ματθαίου Βλάσταρη*, (= East and West in the Canonical Work of Matthew Vlastares), in Greek, *Βυζαντινά*, Vol. 19, Kentron Vyzantinon Erevnon Aristoteleiou Panepistemiou, Thessalonike, Greece.

Viscuso, P. D. (1988), *A Byzantine Theology of Marriage: The* Syntagma kata stoicheion *of Matthew Blastares*, Ph.D. Dissertation, Catholic University of America, Washington, DC.

Ware, K. (1978), "Preface," in *The Lenten Triodion*, translated by Mother Mary and Archimandrite K. Ware, Faber and Faber, London.

_____ (1993), *The Orthodox Church*, Penguin Books, London, England.

Walsh, M. and Ó Cróinín, D. (1988), "Cummian's Letter *De Controversia Paschali* and the *De Ratione Conputandi*," Pontifical Institute of Mediaeval Studies, Studies and Texts 86, Toronto, Ontario, Canada.

Welborn, M. C. (1935), *Calendar Reform in the Thirteenth Century*, Ph.D. Dissertation, The University of Chicago, Chicago, IL.

Wilson, P. W. (1937), *The Romance of the Calendar*, W.W. Norton & Co., Inc., New York, NY.

Zeilik, M. (1991), *Astronomy: The Evolving Universe*, 6th Ed., John Wiley & Sons, Inc., New York, NY.

Zwi Werblowsky, R. J. and Wigoder, G., Editors (1997), *The Oxford Dictionary of the Jewish Religion*, Oxford University Press, New York, NY.

Ὡρολόγιον τὸ Μέγα, (=The Book of Hours), in Greek, Apostolike Diakonia tes Ekklesias tes Hellados, Athens, Greece (1993).

Primary Sources

Anatolius of Alexandria (or Laodicea), *Canons of Anatolius about the Pascha* (Περὶ τοῦ Πάσχα Ἀνατολίου Κανόνες).

Andrew, St., of Crete, Migne, *PG* 19.

Anonymous, *Liber de computo*.

Apostolic Constitutions.

Bede, Venerable, of Jarrow, *De Temporibus*.

Beveregius, *Synodikon*.

Chronicon Paschale, Migne, *PG* 92.

Chrysostom, St. John, *Adversus Judaeos*, Migne, *PG* 59.

Cotelerius, *Monumentis Ecclesiæ Græcæ*.

Copernicus, Nikolaus, *De Revolutionibus Orbium Coelestium*.

Cyprian, Pseudo-, *De Pascha Computus*.

Damascene, St John, *Canonion*, Migne, *PG* 95.

De Ratione Conputandi.

De Solsticia et Aequinoctia Conceptionis et Nativitatis Domini Nostri Iesu Christi et Iahannis Baptistae.

Didascalia.

Epiphanius of Salamis, *Panarion,* Migne, *PG* 42.

Eusebius of Caesarea*, Ecclesiastical History.*

_____*, Life of Constantine*.

Geminus of Rhodes, *Gemini Elementa Astronomiae*.

Georgios Monachos Syncellos, *Chronographiae*.

Gregoras, Nicephorus, *Byzantine History*.
Isaac Monachus Argyros, Migne, *PG* 19.
Josephus, *Antiquities of the Jews.*
_____, *Wars of the Jews.*
Philo, On the Life of Moses *(de Vita Mosis)*.
Photius, *Nomokanon in 14 Chapters.*
Ptolemy, Claudius of Alexandria, *Almagest* (*Μαθηματικὴ Σύνταξις*).
_____, *Handy Tables* (*Πρόχειροι Κανόνες*).
Severianus of Gavala, *PG* 56.
Theon of Alexandria, *Handy Tables* (*Πρόχειροι Κανόνες*).
Vlastares, Matthew, *Syntagma*, Book source B (*Synodikon* by Beveregius, A.D. 1672).
_____, *Syntagma*, Book source ε (16th? c.).
_____, *Syntagma*, Book source K (A.D. 1794).
_____, *Syntagma*, Manuscript Γ (A.D. 1683).
_____, *Syntagma*, Manuscript 1340 (A.D. 1680).
_____, *Syntagma*, Manuscript 1375 (A.D. 1541).

Biblical Citations

Gen 1:1, 1:11-12.
Ex 12:2, 12:6, 13:4, 23:15, 34:18.
Lev 23:5.
Num 9:3.
Deut 16:1.
1 Kgs 6:1.
Mk 9:31, 10:34, 15:6, 16:2.
Mt 27:15, 45, 28:1.
Lk 21, 30, 23:17, 24:1.
Jn 2:19, 18:39, 19:14, 31, 20:1.
Gal 3:19.

Index to Subjects and Names

A

Adam 45, 83, 106, 113
addition 6, 17, 23, 67, 82, 86, 89, 95, 97, 105, 119, 143, 170, 176, 178
adjustment 33, 52, 82, 83, 97, 98, 127
adversary xix, xxv, 5
Agapios, Priest-Monk xxxi
age 5, 13, 21, 22, 23, 27, 28, 67, 68, 70, 78, 79, 80, 81, 82, 90, 94, 95, 96, 98, 112, 131, 136, 139
agreement 98, 138, 172, 176, 177, 178
Akindynos, Gregory xix, xxii
Alexander 7, 22, 23, 137, 157
Alexander the Great 7, 23, 137
Alexandria 8, 23, 35, 49, 59, 60, 83, 131, 152, 153, 157
algorithm 23, 63, 68, 76, 77, 81, 83, 86, 87, 88, 89, 96, 97, 98, 99, 103, 106, 107, 108, 109, 140, 177, 178
analysis 82, 96, 124, 126, 127
Anatolius of Alexandria 23, 36, 59, 178
Andrew of Crete, St. 89, 94
Andrew of Krisis, St. xxx
Andronicus II, Emperor xxvii
Andronicus III Paleologus, Emperor xxiii, xxviii
Annunciation 5, 46, 51
anomaly 30, 45, 51, 95, 98, 124
Apokreos 6, 105, 106, 107, 108
Apollonius of Perga 8
apologia 139, 158
apostle 4, 32, 156
April 7, 15, 31, 47, 50, 69, 74, 81, 93, 95, 96, 97, 98, 99, 101, 103, 105, 106, 107, 109, 117, 123, 136, 177, 178
Archer, P. 80
Argyros, Isaac Monachus 68, 80, 82, 139
Aristarchus 8
Aristenos, Alexios 146, 149, 150, 163, 165
Aristotle of Stagira 8
Armenopoulos, Constantine xix
ascension 9, 137
astronomer 8, 9, 20, 30, 43, 59, 60, 117, 123, 126, 127
astronomy 32, 58, 59, 126, 136, 139, 148
August 51, 162, 163
Augustus Caesar 90
authority 24, 46, 67, 143
Aveni, A.F. 20, 21, 57, 90

B

Babylonians 30, 60
Basilides 152, 154
Bede of Jarrow, Venerable 35, 42, 62, 83, 90, 122
Beveregius, Guilelmus 9, 10, 23, 28, 107, 120
bishop 25, 59, 142, 145, 152, 154, 157, 162
blessing 52, 164, 165
Boyle, I. 9, 23
Burns, W.H. 157

C

calculation 6, 17, 22, 25, 27, 30, 31, 32, 42, 43, 48, 50, 58, 64, 69, 70, 74, 75, 81, 82, 83, 86, 87, 90, 95, 96, 97, 98, 100, 102, 109, 112, 123, 126, 127, 136, 138, 139, 144, 162, 178
calendar vi, 7, 9, 10, 20, 24, 25, 30, 33, 34, 35, 36, 45, 47, 48, 49, 51, 52, 59, 64, 75, 82, 108, 112, 113, 114, 129, 163
Julian calendar 30, 64, 82
calends 123, 163
Callippus of Cyzicus 8, 59
canon 4, 5, 6, 9, 15, 17, 23, 25, 26, 28, 29, 34, 40, 43, 50, 68, 70, 80, 117, 119, 120, 121, 122, 133, 135, 136, 141, 143, 144, 145, 146, 148, 149, 150, 151, 152, 153, 154, 156, 157, 160, 162, 163, 164, 165, 178
canonion 5, 6, 19, 27, 28, 29, 31, 33, 36, 48, 49, 50, 51, 52, 62, 68, 80, 83, 94, 97, 99, 111, 112, 113, 114, 115, 117, 121, 122, 123, 124, 125, 126, 133, 139, 140, 141, 143, 170, 171, 172, 176, 177, 178
canonist vi, 26
Cantalamessa, R. 24
celebration 6, 19, 29, 32, 33, 34, 47, 50, 108, 117, 121, 122, 125, 140, 143, 161
century 6, 7, 8, 20, 21, 34, 43, 48, 60, 64, 77, 85, 88, 98, 136, 140, 157
Chadwick, H. 26
Choumnos, Nicephorus xix
Christ 13, 21, 34, 43, 45, 46, 48, 50, 51, 68, 109, 133, 137, 138, 148, 149, 159, 161
Christian vi
Christianity 31, 32, 153
chronology 22, 122
church vi, 24, 26, 32, 33, 34, 45, 49, 68, 76, 77, 81, 86, 87, 88, 96, 97, 98, 99, 108, 117, 122, 125, 135, 140, 142, 145, 148, 149, 153, 157, 161, 162, 176, 177, 178
Church Fathers 6, 9, 25, 28, 29, 30, 32, 33, 36, 81, 112, 117, 119, 121, 122, 123, 124, 126, 133, 138, 139, 141, 142, 144, 148, 149, 150, 152, 162, 164, 165, 170
Clement, St., Pope of Rome xxxi
clergy xxiii
codex xiv, xvi
commentary xxxiv, 146, 149, 150, 162, 163, 165
completion 17, 63, 67, 73, 85
compotus xxxiii
computation vi, 21, 28, 36, 48, 50, 80, 98, 112, 121, 148
computist 19, 68
computus 80, 112, 157
concelebration 29, 35, 36, 45, 140, 141
conclusion 26, 28, 58, 69, 122, 123
configuration 15, 39, 111, 129
confusion 7, 31, 47, 52, 113, 121, 122, 127, 139
conjunction 36, 37, 82, 127
Constantine the Great, St., Emperor 36, 89, 90

Constantinople 21, 49, 51, 52, 83, 140, 161, 170
constellation 9, 39, 42
controversy 26, 28, 33, 153
convention 10, 26, 47, 67, 69
Copernicus, Nikolaus 8
correction 22, 80, 83, 139, 170, 176
Cotelerios, Ioannis xiv
council 17, 26, 35, 83, 122, 123, 137, 143, 144, 146, 162, 164
course 9, 20, 25, 27, 45, 51, 55, 60, 67, 74, 81, 141, 144, 155, 176
court xxiii, xxviii, 5
Covenants 111
creation 10, 39, 41, 43, 48, 52, 67, 68, 69, 72, 73, 75, 79, 82, 85, 86, 87, 89, 90, 91, 113, 117, 122, 131, 133
critique 41, 112, 165
Crucifixion 23, 51
Cummings, D. xxxi
custom 32, 35, 45, 89, 111, 144, 145, 151, 157, 165, 167
cycle 8, 9, 15, 17, 24, 27, 28, 30, 31, 34, 45, 47, 48, 49, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60, 62, 63, 64, 67, 68, 69, 73, 74, 75, 76, 77, 79, 80, 81, 82, 83, 85, 86, 87, 89, 90, 91, 93, 95, 96, 97, 98, 99, 100, 101, 103, 107, 111, 112, 117, 119, 122, 124, 129, 136, 140, 169, 170, 171, 172, 175, 176, 178
Cyril, Bishop of Nafpaktos xiv
Cyril, St., Patriarch of Alexandria 83, 157
Cyrus the Persian 8

D

Daniélou, J. 35
date vi, 5, 6, 10, 17, 19, 21, 22, 25, 26, 27, 28, 31, 32, 33, 34, 36, 42, 43, 47, 48, 49, 50, 51, 63, 64, 67, 68, 70, 74, 78, 79, 80, 81, 82, 83, 90, 96, 97, 98, 99, 101, 103, 105, 106, 107, 108, 111, 112, 113, 114, 122, 123, 124, 125, 136, 137, 138, 139, 154, 157, 162, 163, 164, 169, 170, 171, 172, 176, 177, 178
dawn 69, 81, 151, 153, 154, 155, 158, 159
deacon 25, 142, 160
death 5, 13, 22, 23, 133, 138, 144, 159
December 51, 64, 67, 69, 74, 79, 80, 81, 90, 98, 102
Decius, Emperor 153
decree 29, 120, 142, 143, 144, 162
decretals 3, 6, 26, 135
deficiency 21, 30, 31, 58, 81, 133
definition 19, 20, 28, 31, 36, 41, 42, 66, 80, 96, 97, 98, 99, 135, 158
Demetrakopoulos, Andronikos xxx
Demetrius 10
Demetrius, Patriarch of Alexandria 153, 157
determination 20, 32, 56, 74, 82, 83, 90, 93, 112, 137, 178
devil 145, 149
Diakainisimos 105
difference 7, 20, 57, 58, 80, 83, 114, 121, 124, 137, 171
Diocletian, Emperor 89, 90, 109
Dionysius the Great, St., Patriarch of Alexandria 51, 83, 90, 98, 121, 152, 153, 154, 157
disagreement 51, 112, 158
discrepancy 21, 30, 31, 42, 47, 51, 59, 80, 82, 83, 97, 115, 122, 124, 126, 139, 170, 171, 172, 176, 177, 178
dispensation xxxi
Dobrzycki, J. 30
doctrine xx, xxii, xxiv
dominion 67
Donaldson, J. 9, 23, 43, 68, 70, 80, 178
Duncan, D.E. 20, 57

duration 17, 47, 81

E

earth 8, 9, 18, 20, 21, 36, 37, 48, 52, 129, 131, 134, 149
Easter 20, 24, 25, 32, 34, 35, 90, 142, 144, 145, 149, 152, 157, 162, 164
eclipse 37, 55
elements 111
emperor 5, 36, 49, 142, 143, 144, 153, 167
enumeration 119, 131
epact 68, 78, 79, 80, 81, 82, 93, 96, 97, 98, 101, 124, 140
Epiphanius of Cyprus 35, 121, 157
equation 20, 82
equator 9, 18, 134
equinox 6, 9, 13, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 39, 41, 42, 43, 45, 47, 48, 49, 50, 51, 52, 68, 83, 117, 121, 123, 124, 125, 127, 129, 131, 133, 135, 136, 137, 138, 139, 140, 143, 157, 159, 171, 172
error 20, 23, 25, 28, 36, 48, 58, 73, 87, 95, 112, 115, 121, 122, 125, 127, 135, 140, 141, 144, 170, 171, 176, 177
estimate 21, 22, 23, 27, 28, 48, 57, 58, 60, 107, 136, 137, 170, 171, 172
Eucharist 34
Eudoxus of Cnidos 8
Eupolemus 10
Eusebius, Bishop of Caesarea 4, 8, 9, 23, 144
evangelist 45, 150, 151, 152, 154, 155, 159, 161
Évieux, P. 157
exile 8, 43, 153
explanation vi, 17, 30, 35, 52, 83, 86, 96, 98, 108, 126, 155, 159, 172
explanations 122, 141

F

Faska 7, 27, 31, 36, 48, 49, 50, 80, 96, 97, 98, 99, 114, 115, 124, 125, 139, 170, 171, 172, 175
fast 34, 35, 36, 50, 106, 108, 109, 145, 150, 151, 152, 153, 154, 155, 156, 157
fasting 50, 105, 106, 108, 145, 150, 151, 155, 156
feast 5, 7, 10, 15, 17, 19, 24, 26, 29, 32, 33, 34, 35, 36, 45, 46, 51, 64, 105, 108, 109, 111, 113, 114, 115, 117, 119, 122, 125, 135, 142, 143, 144, 145, 148, 149, 157, 161, 162, 164
February 7, 27, 67, 69, 74, 81, 101, 102, 105, 106, 107
festival 32, 33, 34, 90, 144, 145, 149
Finegan, J. 7, 8, 10, 20, 23, 24, 46, 49, 57, 60, 90, 163
formula 51, 76, 77, 80, 81, 86, 87, 88, 89, 96, 97, 98, 99

G

Gedeon, M.I. xxix, xxx
Ginzel, F.K. 22, 90, 136, 137, 138
Goarios, Iakovos xiv
God xx, xxv, xxviii
Goldstine, H.H. 27, 31, 36, 48, 52, 82, 96, 124, 126, 170, 171
Gospel xxxiii, 49, 51, 106
Greek vi
Greenberg, B. 52
Gregoras, Nicephorus 5, 21, 23, 27, 29, 32, 52, 83, 112, 136, 137, 138, 139
Gregory Palamas, St. xix
Gregory XIII, Pope of Rome xxx, xxxiii
Grumel, V. 83

H

heaven 52, 126, 154
Hebrews 3, 13, 125
Hefele, C.J. 26, 36, 164
Heilbron, J.L. 140
Heraclas, Patriarch of Alexandria 153
Herodotus of Halicarnassus 80
Hetherington, N.S. 8, 9
Hipparchus of Nicaea 8, 9, 22, 23, 42, 46, 56, 57, 58, 59, 138
Hippolytus 36
Holl, Karl 33
hour 7, 13, 18, 23, 25, 48, 57, 59, 81, 106, 123, 126, 129, 131, 137, 151, 152, 154, 155, 159, 161, 170, 171, 172
Hoyle, F. 8, 60
hymn 5, 113, 138, 148, 149

I

illumination 15, 18, 39, 69
inconsistency 68, 82, 97, 98, 124, 127
increment 22, 57, 96, 99, 138, 170
Indiction 88, 89, 90
influence xvii, xxii, xxx, 43, 161
intercalation 24, 49, 51
interpretation xxiv, 51, 90, 123, 136, 138
intersection 9, 129
interval 13, 15, 19, 20, 45, 57, 59, 79, 121, 129, 131, 136
irregularity 30, 32, 39, 43

J

January 27, 47, 51, 63, 67, 68, 70, 74, 79, 80, 81, 82, 90, 93, 95, 96, 97, 98, 101, 102, 105, 106, 107, 113, 163, 178
Jeremias II, Patriarch of Constantinople xxix, xxx, xxxi
Jerusalem 24, 27, 33, 48, 51, 125
Jewish vi
Jews 6, 7, 15, 17, 24, 25, 26, 27, 28, 29, 32, 34, 35, 36, 45, 47, 50, 52, 95, 105, 107, 115, 125, 135, 140, 141, 142, 143, 144, 145
John Chrysostom, St. xxx
John Climacus, St. xxi
John of Byzantium xv
John of Damascus, St. xxiv
John, St., Bishop of Kitros xxi
John the Faster, St. xxi
John V Paleologus, Emperor xx
Jones, Charles W. xxxiv, xxxv
Josephus xxv
Julius Caesar 20, 59
Jungmann, J.A. 33, 34
justification 151, 154

K

Kabasilas, Neilos xix
Kabasilas, Nicholas xix
Kallinikos, Archbishop of Phthiotidos xv
Kalothetos, Joseph xxii
knowledge 111, 113, 126
Kyrion 45, 46, 48, 51

L

Lamerle, P. 83
language xvii, xxv, 25, 46
Latin vi
law 3, 6, 7, 9, 15, 17, 33, 35, 41, 45, 47, 90, 96, 111, 113, 115, 129, 135, 136, 143, 159, 166, 167
Lazarus 106
legislation 167
Lent 50, 106, 108
Liddell, H.G. 43, 80
light xx, 39, 41, 47, 48, 57, 83, 85, 98, 111, 126, 133, 153, 154, 159
luminaries 25, 39, 41, 66, 119, 126, 133

lunation 27, 69, 80, 83, 98

M

Magistros, Thomas xix
Manichees 35
manuscript xiv, 6, 18, 21, 28, 29, 56, 58, 99, 112, 120, 122, 125, 137, 146, 151, 171
March 3, 5, 7, 13, 15, 21, 23, 25, 27, 28, 45, 46, 47, 48, 50, 51, 52, 64, 67, 68, 69, 70, 72, 73, 74, 75, 81, 90, 93, 95, 96, 97, 98, 99, 101, 102, 103, 105, 106, 107, 117, 121, 123, 131, 133, 136, 137, 138, 139, 171, 172, 178
Marrou, H. 35
Mary, Mother 106, 108
Matthew vi
Maura, St. 109
Maximus, Patriarch 153
May 7, 74, 105, 108, 109, 145
McCluskey, S.C. 46
method 3, 85, 95, 97, 107, 122
Meton of Athos 59, 60
midnight 7, 13, 22, 23, 46, 47, 48, 80, 131, 150, 151, 152, 155, 159
Migne, J.-P. xiii, xiv, xv, xxiv, xxv, xxvi
mind xxiv, xxviii, 144, 148
monastery xviii, xxxiii, 112
month 3, 7, 8, 10, 13, 15, 17, 19, 20, 24, 30, 31, 37, 42, 45, 47, 49, 50, 51, 55, 56, 57, 58, 59, 60, 67, 69, 73, 74, 79, 80, 81, 83, 93, 95, 98, 101, 105, 107, 111, 113, 114, 117, 119, 121, 124, 126, 131, 133, 163, 169, 171
moon 6, 15, 17, 19, 20, 21, 23, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 37, 39, 41, 45, 47, 48, 49, 50, 51, 52, 55, 56, 58, 59, 63, 67, 68, 69, 70, 72, 75, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 93, 95, 96, 97, 98, 105, 107, 109, 111, 112, 113, 114, 117, 119, 121, 124, 125, 126, 127, 135, 139, 140, 170, 171, 172, 175, 178
morning 67, 152, 153, 154, 155, 156, 159
Moses 3, 10, 24, 89, 113
motion 19, 42, 57, 59, 83, 119, 129
movement 17, 30, 39, 55, 57, 63, 95, 119, 133
mystery 5, 6, 111, 148, 149

N

Nabonassar 13, 21, 22, 23, 137, 138
nature 3, 10, 13, 31, 41, 47, 129
New Testament 28, 34, 48, 113, 151, 154
Newton, R.R. 20, 21, 22, 23, 25, 35, 42, 49, 51, 57, 59, 76, 83, 90, 123, 127, 140, 163
Nicephorus I, Patriarch of Constantinople xxi
Nicetas, Metropolitan of Herakleia xxi
Nicodemus of the Holy Mountain, St. xxv, xxxi
Niebuhr, B.G. 5, 21, 32, 43, 52, 83, 136, 137, 139
night 18, 35, 36, 39, 41, 67, 69, 81, 111, 113, 129, 133, 141, 150, 151, 153, 154, 155, 156, 158, 159, 169
Nomikon 3, 7, 13, 17, 19, 27, 28, 29, 31, 36, 47, 48, 49, 50, 52, 80, 93, 95, 96, 97, 98, 99, 101, 103, 105, 108, 111, 112, 113, 114, 119, 121, 124, 125, 139, 140, 170, 171, 172, 175, 176, 177, 178
noon 13, 18, 19, 22, 111, 131

O

observation 6, 8, 22, 23, 24, 28, 57, 64, 82, 91, 113, 120, 123, 138
October 47, 63, 68, 73, 74, 75, 86,

101, 102, 153
Ogg, G. 43, 68
Old Testament 8, 34, 40, 113
O'Neil, W.M. 20, 90
opposition 5, 36, 37
Origen 153
origin 26, 29, 58, 90
Orthodox vi, 28, 36, 43, 49, 50, 106, 108, 112, 125, 140, 153, 158, 161

P

Papadopoulos, Ch. 153
Parise, F. 31, 48, 171
Pasachoff, J.M. 9, 20, 134
Pascha v, vi, 1, 3, 4, 5, 6, 7, 9, 10, 13, 15, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 39, 41, 43, 45, 46, 47, 48, 49, 50, 51, 52, 68, 83, 93, 95, 96, 97, 98, 99, 101, 103, 105, 106, 107, 108, 109, 111, 112, 113, 114, 115, 117, 119, 120, 121, 122, 124, 125, 129, 133, 135, 139, 140, 141, 143, 144, 145, 148, 151, 153, 157, 160, 161, 163, 165, 166, 167, 171, 175, 176, 177, 178
Paschos, P.B. 90, 112, 165
passion 23, 34, 45, 48, 51, 52, 68, 106, 138, 144, 145, 150, 151
Passover 6, 7, 13, 20, 24, 25, 26, 27, 28, 31, 32, 33, 36, 47, 49, 51, 52, 113, 114, 115
patriarch 25, 49, 153, 157, 161
Pentecost 108, 154
period 7, 8, 9, 22, 24, 26, 30, 46, 55, 56, 57, 58, 59, 66, 72, 73, 74, 76, 78, 86, 87, 88, 89, 90, 94, 101, 106, 113, 119, 121, 123, 126, 127, 131, 159, 170, 172
Philip Arrhidaeus 23, 137, 138
Philo 13, 23, 24, 25
Pickering, J.S. 8, 59
piety 32, 41, 119, 125
Pliny 46, 59
Popovic, C. xxxv
prayer 33, 151, 156, 157
precession 42, 136
prediction 30, 31, 95, 125, 126, 139, 159
presbyter xviii
priest xv, xxxi, xxxiii
principle xix, 8, 24, 34
problem 6, 34, 36, 48, 68, 122, 124, 136, 140
Pseudo-Cyprian 43
Ptolemy 8, 9, 20, 21, 22, 23, 29, 30, 31, 32, 42, 48, 55, 56, 57, 58, 59, 95, 112, 123, 124, 136, 137, 138
Pythagoras 8

R

Radwin, M.J. 27
reckoning xxvii, xxix, xxxiii
reform xxvii, xxxiii, 5, 6, 20, 22, 25, 32, 35, 49, 59, 82, 83, 124, 136, 139, 140, 143
regulation 35, 106, 112, 135, 144
remainder 15, 49, 51, 52, 53, 60, 74, 76, 77, 85, 86, 87, 88, 89, 90, 93, 96, 102, 137, 163, 177, 178
resurrection 5, 33, 34, 35, 46, 51, 106, 108, 138, 148, 149, 150, 152, 154, 158, 159, 161
Rhalles, G.A. and Potles, M. 4, 6, 9, 10, 18, 21, 23, 26, 28, 29, 35, 36, 46, 56, 58, 73, 87, 99, 100, 106, 107, 109, 112, 120, 122, 124, 125, 134, 137, 144, 146, 148, 149, 150, 151, 160, 162, 163, 165, 166, 167, 170, 171, 176, 177, 178
Rhodopoulos, Metropolitan Panteleimon xvii, xviii
Richard, Marcel 33
Richards, E.G. 27, 69, 70, 79, 80, 81, 82, 83, 97, 98

Roberts, A. 9, 23, 43, 68, 70, 80, 178
Rome xxx
rule 19, 20, 29, 34, 35, 41, 69, 74, 122

S

Sabbath 33, 45, 51, 150, 154, 155, 156
saint xviii, 108, 149, 153, 176
saltus lunae 60, 80, 83, 96, 97, 98, 99, 178
Sandinoff, D. 27
Sathas, K.N. xxx
Saturday 36, 40, 43, 48, 49, 50, 51, 103, 106, 151, 152, 153, 158, 159, 178
scholars xvii, xxxiii, xxxiv
scholarship xviii, xix
Scott, R. 43, 80
scribe 6, 29, 36, 58, 87, 97, 107, 115, 122, 171, 177
Scripture xxiv, 34, 148, 154
season 3, 9, 25, 135, 156, 165
September 51, 73, 74, 75, 89, 90, 91, 162, 163
Severianus of Gavala 69
solstice 9, 20, 21, 42, 43
Sosigenes 20
soul 36, 145, 154, 156
source 4, 6, 9, 10, 21, 23, 28, 29, 36, 42, 43, 83, 95, 96, 107, 113, 120, 121, 123, 124, 137, 166, 167, 170, 171, 176, 177, 178
spirit 17, 32, 156
spring 9, 15, 17, 19, 22, 23, 24, 25, 26, 39, 42, 49, 51, 52, 68, 117, 121, 123, 129, 131, 139, 140, 159, 171, 172
star 9, 42, 43, 119, 159
Stavrides, V.Th. xxix
Steel, D. 81, 90
Stern, S. xxxv
Stevens, W.M. 8, 59, 60, 157
stipulation 5, 6, 7, 17, 20, 29, 50, 97, 117, 121, 122, 125, 133, 140, 141, 143, 167
Strahler, A.N. 8, 9, 18, 21, 30, 37, 42, 43, 57, 134, 136, 137, 139
subtraction 58, 95, 105, 107, 136, 139
sun 3, 8, 9, 15, 18, 19, 21, 24, 32, 36, 37, 39, 41, 42, 45, 47, 52, 55, 59, 60, 63, 67, 69, 72, 73, 74, 75, 85, 86, 87, 100, 101, 111, 113, 117, 119, 129, 134, 135, 153, 154, 155, 159, 178
Sunday xxi, xxxii
Palm Sunday 106, 125
sunset 7, 13, 18, 47, 48, 49, 51, 113, 122, 131, 158, 159
Swerdlow, N.M. 23
symbolism 6, 9, 25, 34, 40, 43, 51
synod 4, 142, 143, 149, 151, 162, 163, 164, 165
Synodikon 9, 10, 23, 28, 107, 120

T

Talley, T.J. 33, 34
text vi, 5, 6, 18, 26, 28, 32, 34, 40, 46, 48, 52, 56, 58, 62, 66, 72, 73, 76, 78, 86, 87, 88, 94, 99, 112, 115, 120, 138, 142, 146, 148, 149, 150, 152, 154, 158, 160, 162, 164, 166, 170, 171, 176, 177, 178
themelios 27, 47, 52, 67, 68, 79, 80, 82, 93, 95, 96, 97, 105, 127
Theocharides, G.I. 112
theologian vi, 148, 161
theology 4, 34
Theonas 153
Theon of Alexandria 23, 80
Theophilus, Patriarch of Alexandria 35, 49, 59, 157
theory xxxiv, 8, 9, 58
Thucidides 43
Tihon, A. 23, 127
time vi
Timothy the Reader, St. 109
Tondering, C. 20, 21, 57, 64, 78, 90,

136
Toomer, G.J. 20, 21, 22, 23, 30, 32, 36, 42, 56, 57, 59
tradition vi, 34, 35, 45, 51, 80, 90, 117, 157
transgression 113, 161
treatise 8, 113, 122
Troianos, S.N. 165, 166
truth 3, 89, 91, 111, 113, 144
Tuesday 48, 52, 63, 68, 74, 101, 152
typology 6
Tyrophagos 105

U

universe 8, 42, 129, 135

V

Valerian, Emperor 153
Valsamon, Theodore 26, 107, 144, 146, 149, 150, 160, 163, 165
Varlaam xix, xx
Vidalis, Iakovos xv
Viscuso, Rev. Fr. Patrick xvii, xviii, xix, xx, xxii, xxv

W

Ware, Kallistos (Bishop) 106, 108
Wednesday 35, 40, 48, 51, 66, 67, 72, 73, 74, 75, 152
week 17, 26, 32, 33, 34, 35, 36, 45, 47, 50, 51, 63, 64, 67, 69, 73, 74, 75, 100, 101, 102, 103, 105, 106, 107, 108, 111, 117, 125, 144, 148, 153, 154, 155, 175, 177, 178
Welborn, Mary C. xxxiii
west 18, 34, 42, 59, 68, 69, 122, 145, 165
Wigoder, G. 49
Wilson, P.W. 90
witness 23, 34, 149
world 8, 15, 39, 41, 67, 68, 79, 85, 89, 91, 117, 122, 133, 154
worship 24, 33, 144

X

Xenophon 43

Z

Zeilik, M. 9, 42
zenith 18
zodiac 3, 9, 39, 41, 42, 129
Zonaras, Ioannes 26, 28, 34, 36, 122, 127, 141, 143, 144, 146, 149, 150, 162, 163, 165
Zwi Werblowsky, R.J. 49

About the Editor and Translator

Anastasios (Tasos) M. Ioannides, Ph.D., P.E., is Associate Professor of Civil Engineering at the University of Cincinnati, Ohio. He was born of Greek parents on the island of Cyprus, where he attended primary and secondary schools, graduating from the English School, Nicosia. Upon completing his military service, he studied Civil Engineering at University College, London, England, funded by a British Commonwealth Scholarship. With a B.Sc. (First Class Honours) degree, he came to the USA, in pursuit of M.S. and Ph.D. degrees at the University of Illinois, Urbana, specializing in geotechnical and pavement engineering. Subsequently, he remained on the faculty of the University of Illinois for almost a decade, before moving to the University of Cincinnati. He has authored more than fifty technical papers in refereed engineering journals, and has consulted for private firms, as well as state and federal agencies. He holds a diploma in Byzantine Music from the Archdiocesan School in Nicosia, Cyprus, and he has served as chanter in various churches in Cyprus, England and the USA. He also holds a Master's degree in Pastoral Theology, awarded under the Antiochian House of Studies Program in Ligonier, Pennsylvania, in collaboration with the St. John of Damascus School of Theology of the University of Balamand in Lebanon. He is married to Anna, with two children: Michael and Evangelia.